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Annotated Directory of Threatened and Endangered Wildlife on Selected U.S. Army Installations East of the Mississippi River

by
David J. Tazik
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The Army is required to protect state and federally listed threatened and endangered species on lands under its control. This can have a direct effect on the use and management of those lands. The Army needs to determine the extent of potential endangered species problems on Army lands as a basis for developing long term management strategies to protect listed species while minimizing negative effects on the Army's training and testing missions.

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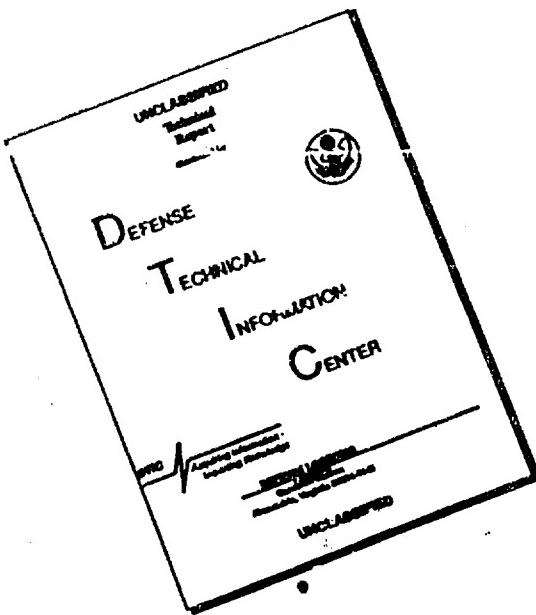
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FOREWORD

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ANNOTATED DIRECTORY OF THREATENED AND ENDANGERED WILDLIFE ON SELECTED U.S. ARMY INSTALLATIONS EAST OF THE MISSISSIPPI RIVER

1 INTRODUCTION

Background

The Army is required to protect state and federally listed threatened and endangered species on lands under its control.¹ This can have a direct effect on the use and management of those lands. Presence of threatened or endangered species can (1) limit land uses, including training activities, (2) result in direct conflicts with the military mission, (3) require added financial and personnel resources to take affirmative action on behalf of listed species, and (4) involve state and federal wildlife agencies in Army land use decisionmaking. There is a need to determine the extent of potential endangered species problems on Army lands as a basis for developing long term management strategies to protect listed species while minimizing negative effects on the Army's training and testing missions.

The number of species protected by endangered species laws is large and is rapidly increasing. As of July 1990 there were 588 species listed as federally threatened or endangered — 61 mammals, 87 birds, 32 reptiles, 11 amphibians, 84 fishes, 78 invertebrates, and 235 plants.² The number has increased steadily at an average of 26.5 species per year since 1973, the year the Endangered Species Act was enacted. At this rate, an additional 252 species will be listed by the year 2000, for a total of 840 species. Trends at the state level are likely to be similar.

A continuing increase in the number of species listed is expected for at least four reasons. First, a reduction in wildlife numbers due to habitat destruction and other human disturbances is likely to continue. Second, there is increasing awareness of and scientific information on the traditionally less visible species whose small populations are most susceptible to extinction. Third, approximately 3,900 species of plants and animals are official candidates for listing.³ About 2,950 of these have gone unlisted because the biological status assessments required to determine the need for listing have not been completed. For the remaining 950, information is available to support listing, but listing has been constrained by insufficient resources.⁴ Finally, in the future, few species are likely to be removed from the list of threatened and endangered species (delisted) because of recovery or extinction. Only five species have recovered since 1973 and six have been declared extinct.⁵

The potential for conflicts between endangered species and the Army mission is high. Over 12 million acres of Army managed lands are located in a diversity of ecological regions and habitat types

¹ 16 U.S. Code (U.S.C.) 1536(a)(1); Army Regulation (AR) 420-74, Paragraph 6-2 *Natural Resource—Land, Forest, and Wildlife Management* (Headquarters, Department of the Army [HQDA], 25 February 1986); Federal Register (FR) 54:7539-7543, 265.7(B)(3)(b) [22 Feb 1989].

² *Endangered Species Technical Bulletin*, Vol 15, No. 2 (U.S. Department of the Interior, 1989) p 8.

³ *Endangered Species: Management Improvements Could Enhance Recovery Program*, GAO/RCED-89-5 (U.S. General Accounting Office [GAO], 1989), pp 1-100; FR 54:554-579 [6 Jan 1989].

⁴ "Legislative History: Endangered Species Act Amendments of 1988--African Elephant Conservation (P.L.100-478)", *U.S. Code: Congressional and Administrative News*, Vol 8A (West Publishing Co., 1988), pp 2700-2750.

⁵ *Endangered Species: Management Improvements Could Enhance Recovery Program*.

throughout the United States. Furthermore, many unique habitats exist on Army lands because private development has been restricted, and such unique areas often are left relatively undisturbed by the military despite extensive training activities. Previous research documented the presence or likely presence of 27 federally listed species and 56 exclusively state listed species on 20 major installations west of the Mississippi River.⁶ The diversity of ecological zones and habitats in the east will likely produce at least as many, if not more species on eastern installations.

Nonmilitary land uses on Army training and testing reservations — forestry, grazing, crop production, and hunting — may also conflict with threatened and endangered species. Recent controversy over the red-cockaded woodpecker (*Picoides borealis*), a permanent resident on several installations in the southeastern United States, is a case in point. This species has come into conflict with both military training and forestry practices on a number of installations. While these activities are valuable uses of Army lands, when properly managed, they are not immune to restrictions imposed by the presence of threatened and endangered species.

The Army can begin to deal effectively with the problems imposed by threatened and endangered species if steps are taken to determine the nature and extent of the problem. These steps should be followed up with selected field surveys and the development of a proactive planning process. An annotated directory of threatened and endangered wildlife on Army lands is a first step in this direction.

Objective

The objective of this research is to summarize available information on the known or potential occurrence of federal and state listed threatened and endangered species on major Army installations east of the Mississippi River. This information is intended to alert installation land managers to the potential for endangered species on lands under their management, and to provide Army planners and administrators with a ready source of comparative information on the endangered species management burden among installations.

Approach

Information was gathered on the known or probable occurrence of state and federally listed threatened and endangered wildlife species on 46 Army installations located east of the Mississippi River. Information was derived from a variety of sources including U.S. Fish and Wildlife Service (USFWS) regional offices and Ecological Services field offices, state Natural Heritage Programs, installation and Major Command (MACOM) natural resource personnel, available literature, and known experts at various colleges and universities. Summaries of species occurrences and management implications are compiled for each installation.

⁶ Diersing, V.E., W.D. Severinghaus, and E.W. Novak, *Annotated Directory of Endangered Wildlife on Selected U.S. Army Installations West of the Mississippi River*, Technical Report N-85/08/ADA154623 (U.S. Army Construction Engineering Research Laboratory [USACERL], March 1985).

Scope

Forty-six installations east of the Mississippi River are included in this report. Installations were selected to be representative of (1) the Major Commands, (2) a broad range in size of installations, (3) and installations with training or testing missions. Additional installation accounts will be added in the future as the information is completed.

Mode of Technology Transfer

The information developed as a result of this research should be transferred to installations and MACOMs as part of a handbook of threatened and endangered species on Army lands. The information also should be incorporated into the Army's Land Condition Trend Analysis (LCTA) Program database management system for Army-wide data summarization and dissemination. Also, a mechanism must be developed to update installation and species accounts through (1) direct input from installations and (2) expansion of and integration of data gathered in conjunction with the LCTA program.

2 ENDANGERED SPECIES ACT

The Endangered Species Act of 1973 (hereafter referred to as the Act), is one of the most far-reaching legislative initiatives taken by the Federal Government on behalf of wildlife. It was established to protect species of plants and animals thought to be threatened with extinction. A critical feature of the Act is the responsibility, if not burden, it places on all federal agencies to protect listed species that occupy lands under their control as well as those that might be affected by their actions. Extensive reviews can be found in other sources.⁷

This Act was the first piece of federal legislation to protect a group of non-sport wildlife and plants comprehensively. Previous efforts, most notably the Endangered Species Preservation Act of 1966 and Endangered Species Conservation Act of 1969, provided for protection of domestic species in danger of extinction primarily via acquisition of habitat. Neither act compelled federal agencies to pursue programs to protect endangered species, and they did not prohibit the taking of such species. This prohibition was left to the states under the concept that states had primary responsibility to regulate the taking of resident species.

The Act protects species listed as threatened or endangered by restricting taking, regulating trade, providing habitat acquisition authority, mandating consideration of impacts due to federal activities, and recognizing the international scope of the problem. Other sources provide an extensive review of the Act and amendments through 1982.⁸

Endangered species, threatened species and critical habitat are the three major features of the Act. Endangered species are those in danger of extinction throughout all or a significant portion of their range. Threatened species are those likely to become endangered within the foreseeable future throughout all or a significant portion of their range. Critical habitat, formally designated by the Secretary of Interior or Commerce (hereafter referred to as the Secretary) depending upon jurisdiction, is defined as areas essential for the conservation of listed species and that may require special management consideration or protection. It can consist of a portion or the entirety of the area occupied by a listed species, as well as areas outside existing occupied areas.

Section 7, Interagency Cooperation, is the core of the Act. Under Section 7, all federal agencies are obliged to "utilize their authorities in furtherance of the purpose of this Act by carrying out programs for the conservation of endangered species and threatened species,"⁹ and to "insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat of such species."¹⁰ Under these mandates, federal agencies have (1) an affirmative duty to promote endangered species conservation and to determine the effects of their actions on listed species thought to be present, and (2) are prohibited from furthering the demise of listed species and critical habitat.

⁷ M.J. Bean, *The Evolution of National Wildlife Law. Revised and Expanded Edition* (Praeger Publishers, New York, 1983), D.J. Rohlf, *The Endangered Species Act, a Guide to its Protections and Implementation* (Stanford Environmental Law Society, Stanford, CA, 1989).

⁸ M.J. Bean, 1983.

⁹ 16 U.S.C. § 1536(a)(1).

¹⁰ 16 U.S.C. § 1536(a)(2).

Section 7 also provides for consultation between an agency and the U.S. Fish and Wildlife Service (USFWS) when evidence suggests that an agency action will likely affect a listed species.¹¹ Regulations allow for both formal and informal consultation between the affected agency and the USFWS.¹² Formal consultation is required whenever an agency action may affect, positively or negatively, a listed species or critical habitat. Informal consultation is an optional procedure that includes all contacts between USFWS and the federal agency involved. "It is designed primarily to except from the formal consultation process those proposed actions which, upon further informal review, are found not likely to adversely affect a listed species or critical habitat."¹³ Consequently, the more demanding procedural requirements of formal consultation can be avoided when an agency action is found, through informal consultation, to be beneficial or of insignificant consequence to a listed species. It also allows an opportunity to recommend modifications to proposed actions designed to avoid potential adverse effects.

Informal consultation provides considerable flexibility in dealing with endangered species conflicts, and appears to be the preferred method of resolution. While the number of consultations, formal and informal, increased substantially between 1979 and 1987, formal consultations declined from over 35 percent to less than 5 percent of the total.¹⁴ However, although informal consultation appears to be a successful approach to accommodating both the needs of endangered species and agency mission requirements, some question remains as to whether it may be too accommodating to development interests.

Section 9, Prohibited Acts, among other things, makes it unlawful for any person subject to the jurisdiction of the United States to "take" a listed species anywhere in the United States, its territorial waters, or on the high seas. "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.¹⁵

Within this definition of take, the term "harm" has been the subject of much judicial scrutiny. The USFWS defines harm in the definition of take as "an act that actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."¹⁶ Courts have upheld the notion that modification or degradation of a species habitat, even when it is not formally designated as "critical habitat," constitutes a harm if it threatens the species survival. Such harm is therefore a prohibited taking.¹⁷ Under this approach, a species need not be present when its habitat is altered. For example, the breeding habitat of a migratory species is protected even when it is on its wintering grounds.¹⁸

¹¹ 16 U.S.C. § 1536(a)(3).

¹² 50 Code of Federal Regulations (CFR) § 402.

¹³ 51 FR 19948 (3 June 1986).

¹⁴ S.L. Yaffee, "Protecting Endangered Species Through Interagency Consultation," *Endangered Species Update* 5:14-19 (1988).

¹⁵ 16 U.S.C. § 1538 (a)(1)(B),(C).

¹⁶ 46 FR 54748,54750 (4 November 1981).

¹⁷ *Palila v Hawaii Dept. of Land and Natural Resources* 639 F.2d 495 (9th Cir. 1981), and *Palila v. Hawaii Dept. of Land and Natural Resources* 852 F.2d 1106 (9th Cir. 1988).

¹⁸ M.J. Bean, 1983.

Exemptions and Exceptions

Section 7 allows parties to apply for exemptions to the jeopardy clause of that section.¹⁹ An elaborate procedural process has been set up to deal with such applications.²⁰ Applications are considered by a seven-member committee consisting of the Secretaries of Agriculture, the Army, and Interior, the Chairman of the Council of Economic Advisors, the Administrators of EPA and NOAA, and the President. The Committee may grant an exemption under the following conditions: (1) there are no reasonable or prudent alternatives to the agency action, (2) the benefits of such action clearly outweigh the benefits of alternative courses of action consistent with conserving the species or its critical habitat, and such action is in the public interest, (3) the action is of regional or national significance, and (4) neither the federal agency concerned nor the exemption applicant made any irreversible or irretrievable commitment of resources. Also, the exemption must not violate any international treaty obligations, as determined by the Secretary of State, and may be contingent upon various mitigation and enhancement measures established by the committee. An exemption must be granted if the Secretary of Defense finds that it is necessary for reasons of national security, and may be granted by the President in Presidentially declared disaster areas.

There are two situations under which a Section 9 taking may be permitted. First, agency actions that do not jeopardize the continued existence of a listed species but that do result in taking that is incidental to those actions may be permitted under Section 7.²¹ However, the agency will be required to take certain "reasonable and prudent measures" to minimize any adverse effects and shall comply with other terms and conditions set forth by the Secretary.

Second, incidental taking also may be permitted under Section 10 of the Act. Before the 1982 amendments that enacted this provision, taking prohibitions could be dealt with only through criminal sanctions that were largely unenforceable. Section 10 encourages applicants to participate in endangered species conservation by establishing a formal permitting process. To obtain a permit, the applicant must submit a conservation plan that specifies, (1) likely impacts, (2) what measures will be taken to minimize and mitigate such impacts and the funding that will be available to implement them, (3) alternative actions considered and reasons for their rejection, and (4) other measures that may be required by the Secretary.²² To issue the permit, the Secretary must find that the taking is incidental to and not the purpose of the action, that adequate funding will be made available to carry out the plan, and that the taking will not appreciably reduce the likelihood of survival and recovery of the species.²³

Because approximately one-third of U.S. land is controlled by the Federal Government, the Section 7 requirements of the Act are clearly significant to endangered species protection. It is also clear, despite Section 9 prohibitions against taking, that private lands are less available for endangered species protection, all the more so as these lands continue to be developed at a rapid pace. The major challenge facing federal land management agencies is and will continue to be minimizing the conflict between their primary mission(s) and the needs of endangered species. The significance of this challenge lies in the notion that the continued existence of such species may take precedence over that mission.²⁴ Clearly,

¹⁹ 16 U.S.C. § 1536(a)(1).

²⁰ 50 CFR § 450-453.

²¹ 16 U.S.C. § 1536(b)(4)(B).

²² 16 U.S.C. § 1539(a)(1)(2)(A).

²³ 16 U.S.C. § 1539(a)(1)(2)(B).

²⁴ *Tennessee Valley Authority v. Hill* 437 U.S. 153 (1978).

it is incumbent on these agencies to incorporate endangered species considerations in their land use planning to avoid the pitfalls that are likely to arise in the absence of such considerations.

Endangered Species and the Army

The primary mission of the Army in peacetime is to maintain national defense preparedness. In carrying out this mission, the Army uses much of its land to train troops. Activities range from low impact foot training to highly destructive tracked vehicle maneuvers and artillery shelling. These and a variety of other land uses (e.g., grazing, forestry, etc.) can and do alter drastically the composition and structure of vegetation communities, which in turn can have both positive and negative effects on listed species. Presence and use of a variety of hazardous material on Army lands can also affect such species. Furthermore, many of the individual actions taken by civilian and military personnel on Army lands may result in the taking of listed species.

Army policy on the subject is found in Army Regulation (AR) 420-74.²⁵ Amplification and clarification is also available.²⁶ It requires compliance with the jeopardy clause of the Act, and, where applicable, the development and implementation of inventory and monitoring programs for listed species and their habitat on Army lands. Furthermore, recent Army guidance indicates that candidate species are to be considered in a proactive manner.

The Department of the Army presently is revising AR 420-74. The Department of Defense (DOD) Directive upon which it is to be based (DOD Directive 4700.4) states that, "Endangered and threatened species and their habitats shall be protected and managed according to the Endangered Species Act and implementing U.S. Fish and Wildlife Service (FWS) regulations and agreements," and that

[Fish and Wildlife] Management plans for installations with endangered species shall include:

- (1) Coordinated protection and mitigation measures.
- (2) Appropriate affirmative methods and procedures necessary to enhance the population of endangered species.
- (3) Procedures and responsibilities for consulting with the FWS prior to funding or conducting any action likely to affect a listed species or its critical habitat.²⁷

To comply with the affirmative and prohibitory duties mandated by the Act while also minimizing the impact of threatened and endangered species on the Army's primary mission, Army land managers must be prepared to take a proactive rather than a crises-management approach toward the endangered species problem. There are several justifications for this approach.

First, knowing the distribution, abundance and needs of threatened and endangered species on its lands will provide the Army with a realistic assessment of limitations placed by those species on use of the lands. This information in turn can serve as one basis for planning for more efficient use of existing lands and for the acquisition of new lands. Second, active pursuit of solutions to potential endangered

²⁵ AR 420-74.

²⁶ Technical Note (TN) 420-74-2, *Facilities Engineering, Natural Resources Management, Endangered Species Management Requirements on Army Installations* (U.S. Army Engineering and Housing Support Center [USAEHSC], 17 November 1989).

²⁷ 54 FR 7542 (February 1989).

species problems at the installation level will help to head off controversy and will place the Army in a better position to deal with public scrutiny of its land and wildlife management programs. Third, affirmative obligations under the Act and under DOD Directive 4700.4 appear to mandate a proactive policy. Fourth, the Army will be in a much better position to develop realistic endangered species management plans that give adequate consideration to its unique land use needs if it has access to the best information possible regarding endangered species on its lands. Finally, the Act provides sufficient planning flexibility (e.g., incidental take permits, informal consultation) that can be used to accommodate both the needs of listed species and the Army training mission.

Failure to comply with the Endangered Species Act can have serious consequences. It will delay or halt ongoing or proposed activities, and may result in substantial civil and criminal penalties. The latter include fines of up to \$50,000 and imprisonment for up to 1 year for each violation. Recent criminal prosecutions indicate that responsible federal managers can be held personally liable for such environmental violations occurring on their installations.

Integrated Training Area Management

The U.S. Army's Integrated Training Area Management (ITAM) Program was developed to blend a wide variety of natural resources management considerations into a consolidated program for decisionmaking and policymaking at all levels with the Army, and to provide a vehicle for institutionalizing such considerations within the Army system. One element of the program requires standardized land inventory and monitoring of installation natural resources — the Land Condition Trend Analysis (LCTA) Program. Implementation of LCTA has resulted in the discovery of threatened, endangered, and candidate species²⁸ and the rediscovery of species thought have become extinct. Endangered species status reports have been completed in conjunction with this work.²⁹ These reports follow guidelines recommended by Henifin³⁰ and others and endorsed by the U.S. Fish and Wildlife Service.³¹

Endangered species data obtained in conjunction with LCTA work and other related data are being input to a computerized database of protected species on Army lands. This database is being developed as part of the LCTA Database Management System. It is being designed to incorporate database information available through the U.S. Fish and Wildlife Service, the Nature Conservancy, and state Natural Heritage programs.

²⁸ K.A. Schulz, R.B. Shaw, and D.J. Tazik. Status of *Haplopappus fremontii* A. Gray subsp. *monocephalus* (A. Nels.) H.M. Hall (Asteraceae) on the U.S. Army Pinon Canyon Manuver Site, Colorado. *Phytologia* submitted. 1991.

²⁹ G.H. Aplet, et al., A Preliminary Status Report for *Haplostachys haplostachya* (A. Gray) St. John, an Endangered Mint Restricted to Pohakuloa Training Area, Hawaii. USACERL Draft Status Report; C.F. Bagley, and J.D. Mastrogiuseppe, Columbia Milkvetch, *Astragalus columbianus* Barneby on Yakima Firing Center, Washington, USACERL Draft Status Report, R.J. Brozka, Todson's Pennyroyal, *Hedeoma todserii* Irving on White Sands Missile Range, New Mexico, USACERL Draft Status Report; and K.A. Schulz, R.B. Shaw and D.J. Tazik.

³⁰ M.S. Henifin, et al., "Guidelines for the Preparation of Status Reports on Rare or Endangered Plant Species," *Rare Plant Conservation. Geographical Data Organization* L.E. Morse and M.S. Henifin, Eds. (The New York Botanical Garden, New York, 1981).

³¹ 50 FR (188). 39526-39527, "Endangered and Threatened Wildlife and Plants, Review of Plant Data for Listing as Endangered or Threatened Species; Notice of Review."

3 INSTALLATION ACCOUNTS

The 46 installations listed in this report include 18 Army Materiel Command (AMC), 10 Training and Doctrine Command (TRADOC), 9 Forces Command (FORSCOM), 6 National Guard Bureau (NGB), and 1 each of Military Department of Washington, U.S. Military Academy, and Military Traffic Management Command. They encompass over 2 million acres of land ranging in size from 3,364 acres at Fort Lee, VA to over 200,000 acres at Fort Stewart, GA.

A total of 289 state and federal candidate, proposed and threatened and endangered species were identified as possibly occurring on one or more of these installations. They account for 993 records* when combining the possibilities for all installations (see Appendixes A and B). Included are 86 birds (543 records), 24 mammals (143 records), 38 reptiles (93 records), 17 amphibians (25 records), 36 fish (57 records), 72 mollusks (115 records), 2 crustaceans (2 records), and 14 insects (15 records). However, several of these species are extinct throughout most if not all of their respective ranges (extirpated), most notably Bachman's warbler, ivory-billed woodpecker, and red wolf, and together these account for 78 records. Also, 247 records are for species that only migrate or are transient through an area. Removing records of extirpated, migratory, and transient species leaves a total of 264 species and 681 records.

A total of 71 species are federally threatened or endangered, federally threatened due to similarity of appearance, or proposed for federal listing. The remainder are listed or proposed for listing at the state level. Of 61 species currently known to reside on one or more installations, only 28 are listed or proposed for listing at the federal level.

Installation land managers should prepare individual installation accounts and update them annually to incorporate new information as it becomes available, and to ensure that MACOM and DA natural resources personnel have access to the most current information on threatened and endangered species on Army lands. Appendix C contains a sample standard status report. Installations should report on the status of protected species known or thought to occur on their lands through their MACOMs. This information should then be made available to the ITAM Support Center for incorporation into annual updates of the installation accounts and the LCTA Database Management System.

Codes found in following text:

FE -- Federally Endangered

FT -- Federally Threatened

FPE-- Federally Proposed as Endangered

FPT-- Federally Proposed as Threatened

C1 -- Category 1 candidate for federal listing

C2 -- Category 2 candidate for federal listing

3A -- Former candidate now thought to be extinct

3C -- Former candidate now thought to be common or well protected

SE -- State Endangered

ST -- State Threatened

SP -- State Proposed

RSE-- Recommended as state endangered

RST-- Recommended as state threatened

*A given species may occur on more than one installation, thus yielding multiple records for many species as listed in Appendixes A and B.

ABERDEEN PROVING GROUND AMC

72,518 Acres

Maryland

Main Counties: Harford, Baltimore

Surrounding Counties: Cecil, Kent (across Chesapeake Bay)

VERTEBRATES

Birds

Kirtland's warbler, *Dendroica kirtlandii* (FE): An occasional migrant throughout the state, this warbler may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): Found as a migrant throughout the state, this species may be seen on the installation. Although a program for the reintroduction of falcons was implemented at Aberdeen, this has been discontinued due to the heavy predation by Great Horned owls.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This falcon may be seen as a migrant on the installation. Although this falcon usually migrates along the coast, it may be seen throughout the state.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): The eagle is known to occur on the installation. The mid-winter count for bald eagles in 1988 was 101.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): A rare and local breeder and uncommon wintering species in the area, the shrike may be seen on the installation.

Reptiles

Atlantic loggerhead turtle, *Caretta caretta caretta* (FT, ST): Immature loggerheads forage in Chesapeake Bay. The occurrence of loggerheads in waters around the installation is possible. These turtles usually are seen from May to October.

Bog turtle, *Clemmys muhlenbergi* (C2): In 1978, there was an unconfirmed report that a bog turtle was on the Aberdeen Area of the installation. The turtle has been found on Blossom Point to the south of the installation.

Mammals

Eastern small-footed bat, *Myotis sublatus leibii* (C2): This bat may be seen anywhere in the state during migration. Its occurrence on the installation is possible.

Indiana bat, *Myotis sodalis* (FE, SE): The bat may be found in Baltimore and Harford Counties.

Amphibians

Hellbender, *Cryptobranchus alleganiensis* (C2, SE): The hellbender may be found within the range of the installation.

Fish

Shortnose sturgeon, *Acipenser brevirostrum* (FE): This fish is a rare visitor to the Chesapeake bay watershed.

Maryland darter, *Etheostoma sellare* (FE, SE): This species is known to occur on the installation. The darter is found in Deer Creek. Critical habitat areas recommended by the U. S. Fish and Wildlife Service include Deer Creek, downstream of Maryland Route 136 to the confluence of Deer Creek and Susquehanna River. This portion of the Creek flows past the Churchville Test Area.

Endangered Species Summary

The bald eagle and Maryland darter are known to occur on the installation. Peregrine falcons and Kirtland's warbler may be seen as migrants. The Atlantic loggerhead turtle, and the shortnose sturgeon may be found in waters around the installation. The bog turtle may be in waters on the base. The Indiana and eastern small-footed bats may migrate through areas of the installation. The loggerhead shrike is a rare breeder and wintering species in the area. The hellbender is another possible species to be found in water areas of the installation.

ANNISTON AD

AMC

18,080 Acres

Alabama

Main County: Calhoun

Surrounding Counties: Cherokee, Clay, Cleburne, Etowah, St. Clair, Talladega

VERTEBRATES

Birds

American peregrine falcon, *Falco peregrinus anatum* (FT, ST): This bird is a rare and local transient in Alabama and migrates mainly along the Gulf Coast. Occurrence on the installation is unlikely but possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, ST): This bird is also a rare and local transient that migrates mainly along the Gulf Coast. Occurrence on the installation is unlikely but possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Although there are no records of this species on the installation, there is a record from Cherokee County. Because the birds may range widely to forage, an occurrence on or near the installation is possible.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): This species occurs within Calhoun County and could occur within the installation if suitable pine stands were available.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (ST): In Alabama this bird was formerly an uncommon summer resident and uncommon to fairly common wintering species. Occurrence on the installation is possible, particularly in winter.

Bachman's warbler, *Vermivora bachmani* (FE, SE): This species was once a rare spring transient in central to northern Alabama. The bird has not been seen in the mountain region of north-central Alabama since the late 1950s and is thought to be extinct.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Alabama, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE, SE): Although this species is probably extirpated in Alabama, the installation is within its historic range. Wild populations still exist, making the occurrence of this species possible, although unlikely.

Gray bat, *Myotis grisescens* (FE, SE): Although there are no records of this species, summer roosts are established near water, and this installation is within the historic range. Important caves for hibernating bats occur within a 100 km of the installation. The bats may be seen foraging or migrating around the installation.

Indiana bat, *Myotis sodalis* (FE, SE): Occurrence of this species is listed as possible in Calhoun and the six surrounding counties. "Maternity" colonies could occur around dead trees within riparian areas.

Important caves for hibernating bats occur within a 100 km of the installation. The bats may be seen foraging or migrating around riparian areas of the installation.

Fish

Pygmy sculpin, *Cottus pygmaeus* (FT, ST): This species is only known within nearby Coldwater Spring, which is located outside the city of Anniston and within 3.2 km of the installation.

Coldwater darter, *Etheostoma boschungi* (C2): This fish is known to occur in Coldwater Spring (1.3 km from the installation) and other areas of the upper Coosa River System.

Blue shiner, *Notropis caeruleus* (C2): Populations occur in Shoal and Chocolocco Creeks in Calhoun County.

INVERTEBRATES

Mollusks

Upland combshell, *Epioblasma metastriata* (C2): Records exist for Chocolocco Creek, 11.0 km southwest of Eastaboga, AL and the Coosa River, 4.8 km southeast of Ragland, AL. These areas are less than 6.2 km from the installation, however, no specimens were found in a 1971-1973 study.

Fine-lined pocketbook, *Lampsilis altilis* (C2): This species was found in Chocolocco Creek, 11.0 km southwest of Eastaboga, AL and 5.8 km south of Lincoln, AL. These areas are less than 6.2 km from the installation, and live specimens were found in the Coosa River drainage in a 1971-1973 study.

Judge Tait's mussel, *Pleurobema taitianum* (FE): Historical records indicate this species occurred within the Coosa River drainage about 6.9 km from the installation, although 1971-73 studies failed to find live specimens.

Other

Alabama livebearing snail, *Tulotoma magnifica* (C2): Historical records show this species was collected along the Coosa River drainage. It still may occur on Chocolocco Creek. It has been listed as occurring in St. Clair and Talladega counties.

Sculpin snail, *Stiobia nana* (C2): This species is found in Coldwater Spring, Calhoun County, 1.3 km from the installation.

Endangered Species Summary

Presently the pygmy sculpin and the coldwater darter are of concern within the area. The blue shiner and red-cockaded woodpecker also exist within the area. Possible occurrences of the Indiana bat should also be monitored. Bald eagles may occur as winter residents.

CAMP ATTERBURY**NGB****33,500 Acres****Indiana****Main Counties:** Bartholomew, Brown, Johnson**Surrounding Counties:** Decatur, Jackson, Jennings, Shelby, Marion, Monroe, Morgan**VERTEBRATES****Birds**

Bachman's sparrow, *Aimophila aestivalis* (C2, SE): Historically recorded in Brown, Jackson, and Monroe Counties, this bird is a very rare and local summer resident. Its occurrence on the installation is possible.

Henslow's sparrow, *Ammodramus henslowii* (ST): An uncommon summer resident and migrant, locally common, this sparrow nested in Monroe County in 1981. Its occurrence on the installation is possible.

Upland sandpiper, *Bartramia longicauda* (SE): A fairly common migrant in the area, recent nesting records (1984) were recorded in Johnson County. Historically, the bird also nested in Morgan County. The occurrence of the sandpiper on the installation is possible.

American bittern, *Botaurus lentiginosus* (SE): A fairly common regular migrant, there is a historical record of this bird nesting in Morgan County. Its occurrence on the installation in marshland areas is possible.

Great egret, *Casmerodius albus* (SE): A species that declined mainly because of overhunting, the egret is a rare spring migrant and uncommon fall migrant most often seen in its post-breeding wandering period, August to September. Recent nesting records (1984) are from Jennings County. Its occurrence on the installation in marsh areas is possible.

Northern harrier, *Circus cyaneus* (ST): An uncommon migrant and rare permanent resident, the harrier is known to occur on the installation. Historically, this bird nested in Jackson and Johnson Counties.

Sedge wren, *Cistothorus platensis* (ST): A locally common migrant and summer resident, the wren historically nested in Monroe County. Its occurrence on the installation is possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): A very rare to casual migrant and winter resident, the falcon was recorded at the Atterbury Fish and Wildlife Area in 1985. Its occurrence as a migrant on the installation is possible.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): Recorded in March of 1984 on the Atterbury Fish and Wildlife Area, the eagle is usually seen during migrations.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): A rare migrant and very rare summer resident, the shrike has been recorded within a 1.3 km radius of the installation. Historical breeding localities are known for Jackson and Morgan Counties.

Black-crowned night heron, *Nycticorax nycticorax* (SE): This bird is known to occur on the installation. Historically recorded as nesting in Jackson County, this bird is now considered a rare migrant and casual winter resident. It may be found in marsh areas of the installation.

Yellow-crowned night heron, *Nycticorax violaceus* (SE): A casual to rare migrant and summer resident, this bird was recorded nesting in Jackson County in 1986. Its occurrence in marsh areas of the installation is possible.

Osprey, *Pandion haliaetus* (SE): A rare to uncommon migrant throughout Indiana, this bird was recorded nesting in Morgan County in 1962. Its occurrence on waters around the installation is possible.

King rail, *Rallus elegans* (SE): An uncommon migrant and summer resident, this bird occurs on the installation.

Bewick's wren, *Thryomanes bewickii* (SE): Historically recorded as nesting in the area, this rare summer resident is often confused with the house wren. Its occurrence on the installation is possible.

Common barn owl, *Tyto alba* (SE): A permanent resident in various areas of the state, the barn owl may be found on or near the installation in man-made structures such as barns or storage buildings. This owl has nested in Johnson County during 1985.

Golden-winged warbler, *Vermivora chrysoptera* (SE): An uncommon to rare migrant throughout the state and a very rare summer resident, this bird historically was recorded nesting in Brown County. Its occurrence on the installation is possible.

Reptiles

Kirtland's snake, *Clonophis kirtlandii* (C2, ST): Historically, this species was recorded in Brown, Johnson, Morgan, and Monroe Counties. Its occurrence on the installation is possible.

Mammals

Bobcat, *Felis rufus* (SE): The bobcat is found within a 1.3 km radius of the installation. Historically recorded in Jennings County.

Gray bat, *Myotis grisescens* (FE, SE): A rare postbreeding wanderer in Indiana, the species has been recorded in Jennings County. Its occurrence on the installation is possible.

Indiana bat, *Myotis sodalis* (FE, SE): Generally seen in the fall, this species has been recorded in Johnson and Jennings Counties. Its occurrence as a migrant on the installation is possible.

Evening bat, *Nycticeius humeralis* (SE): An uncommon summer resident throughout Indiana, this species has been recorded in Jackson and Monroe Counties. Its occurrence on the installation is possible.

Badger, *Taxidea taxus* (ST): The badger is known to occur on the installation.

Fish

Eastern sand darter, *Ammocrypta pellucida* (C2): This species may be found in waters around the installation.

INVERTEBRATES

Mollusks

Pink papershell mussel, *Potamilus laevissima* (SE): This mollusk has been recorded within a 1.3 km radius of the installation.

Endangered Species Summary

No federally listed species are known to occur on the installation, although the Indiana and gray bats may possibly forage in riparian areas on the installation. The king rail, black-crowned night heron, northern harrier, and the badger are state listed species known to occur on the installation. The loggerhead shrike, bobcat, and pink papershell mussel are known to occur within a 1.3 km radius. Other state listed birds may occur as migrants, and the eastern sand darter may be found in waters around the installation.

BADGER AAP **AMC** **11,637 Acres Wisconsin**

Main County: Sauk

Edge County: Columbia

Surrounding Counties: Dane, Iowa, Richland

VERTEBRATES

Birds

Red-shouldered hawk, *Buteo lineatus* (ST): This hawk has been recorded in areas less than 6.2 km from the installation.

Great egret, *Casmerodius albus* (ST): The egret has been recorded in areas less than 6.2 km from the installation.

Piping plover, *Charadrius melodus* (FE): The plover has been recorded in Dane County from July to August. Its occurrence as a migrant on the installation is possible.

Cerulean warbler, *Dendroica cerulea* (ST): This species may occur on the installation as a migrant.

Yellow-throated warbler, *Dendroica dominica* (SE): Recorded in Dane, Iowa, and Sauk Counties from April to June, this bird may occur as a migrant.

Acadian flycatcher, *Empidonax virescens* (ST): The flycatcher may occur as a migrant on and around the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE): This falcon may breed in Sauk County. Historically recorded in areas around the installation, falcons have been reintroduced to areas around Devil's Lake.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): This falcon may be seen as a migrant on or around the installation, although their occurrence would be rare.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FT, ST): Eagles are known to winter in riparian areas in Sauk County.

Worm-eating warbler, *Helmitheros vermivorus* (SE): This bird may be found in Dane County in May and Sauk County from May to July. Its occurrence on the installation is possible.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): Historically recorded less than 6.2 km from the installation, shrikes are usually found in open areas. Their occurrence on Badger AAP is possible.

Kentucky warbler, *Oporornis formosus* (ST): This warbler may occur as a migrant on and around the installation.

Osprey, *Pandion haliaetus* (SE): This bird may occur as a migrant in riparian areas on the installation.

Caspian tern, *Sterna caspia* (SE): This species may occur as a migrant in riparian areas of the installation.

Forster's tern, *Sterna forsteri* (SE) This species may occur as a migrant in riparian areas on the installation.

Common barn owl, *Tyto alba* (SE): Although recorded in areas greater than 9 km from the installation, the owl's occurrence on the grounds is possible.

Reptiles

Wood turtle, *Clemmys insculpta* (ST): Restricted to forested areas along fast-moving streams, and found in rivers in the fall, this species has been recorded in the Baraboo River, in areas about 6.2 km from the installation.

Blanding's turtle, *Emydoidea blandingi* (ST): This species occurs in the Wisconsin River. Its occurrence in waters around the installation is possible.

Western slender glass lizard, *Ophisaurus attenuatus attenuatus* (SE): A rare species, the lizard is generally found in oak savannas and sand prairies. From 1973-1985, they were recorded in areas about 6.2 km from the installation. This lizard may occur on or around the installation.

Eastern massasauga rattlesnake, *Sistrurus catenatus catenatus* (C2, SE): Historically ranging over the southern third of Wisconsin, these snakes were recorded in areas 9-12.5 km northeast of the installation. Massasaugas are found in mesic prairies and lowland areas along rivers, lakes, and marshes. Their occurrence around the installation is possible.

Western box turtle, *Terrapene ornata* (SE): Found within the sandy floodplain of the Wisconsin River, this species has been recorded in waters downstream from the installation. Its occurrence on the installation is possible.

Northern ribbon snake, *Thamnophis sauritus* (SE): Recorded within a 9.4 km radius, this species may be found in semiaquatic habitats on the installation.

Western ribbon snake, *Thamnophis proximus proximus* (SE): Found in isolated populations in the southern third of Wisconsin, this snake may be found in sandy areas near marshes along the Wisconsin River.

Amphibians

Blanchard's cricket frog, *Acris crepitans blanchardi* (SE): The installation is within the range of this frog, which inhabits marshes along rivers and river floodplains. This species has been collected in areas 12.5 km from Badger AAP.

Fish

Lake sturgeon, *Acipenser fulvescens* (C2): Uncommon to rare, the sturgeon historically was recorded in the Wisconsin River near the installation. Its occurrence is possible, but would be rare.

Blue sucker, *Cyclopterus elongatus* (C2, ST): Generally found in moderate to swift current, the sucker has been recorded in the Wisconsin River less than 3.1 km from the installation.

Goldeye, *Hiodon alosoides* (SE): Generally found in quiet, turbid waters, the goldeye was recorded in the Wisconsin River near the installation in 1985.

Speckled chub, *Hybopsis aestivalis* (ST): Generally an inhabitant of medium to large rivers, this fish has been found in the Wisconsin River around the installation.

Redfin shiner, *Notropis umbratilis* (ST): Locally rare to common, historically, the shiner was found in waters less than 6.2 km from the installation. Since it has disappeared from many of its former locales, its occurrence around the installation is unlikely.

Paddlefish, *Polyodon spathula* (3C, ST): This species has been found in the Wisconsin River around the installation.

INVERTEBRATES

Mollusks

Rock pocketbook, *Arcidens confragosus* (ST): Collected in the Wisconsin River less than 6.2 km from the installation in 1975, this species may still occur in waters around Badger AAP.

Winged mapleleaf, *Quadrula fragosa* (3C, SE): Collected in waters less than 6.2 km from the installation in 1987, this species may still occur in waters around the base.

Salamander mussel, *Simpsonaias ambigua* (C2, ST): Collected in the Wisconsin River about 9.4 km from the installation in 1987, this species may still occur in the area.

Buckhorn, *Tritogonia verrucosa* (ST): Collected in 1977 less than 6.2 km downstream in the Wisconsin River, it may still be found in waters around the installation.

Other Invertebrates

Silphium borer moth, *Papaipema silphii* (SE): Collected less than 12.5 km from the base in 1983, the moth may occur on the installation.

Endangered Species Summary

Although no federally listed species are known to occur on the installation, the bald eagle may inhabit areas around Badger AAP. State and federally listed mollusks may be found in the Wisconsin River around the installation. Several state listed birds, fish, reptiles, and amphibians may be found in the marsh areas of the installation.

FORT A.P. HILL FORSCOM 88,760 Acres Virginia

Main Counties: Caroline and a small section of Essex

Surrounding Counties: Essex, King George, Spotsylvania, Stafford

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (RSE): Found in low wetland areas covered with brush and sedges, and sometimes in clearings, this bird historically bred in eastern Virginia. Its occurrence on the installation is possible.

Northern harrier, *Circus cyaneus* (RSE): Historically recorded as an uncommon migrant, this species may be seen as a transient on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): A migrant mainly along the coast, falcons may be seen in migration.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): There have been numerous sightings of adult eagles and a few immature birds on post where many ponds provide foraging opportunities. Active nests occur along the nearby Rappahannock River from Fredricksburg to the Chesapeake.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): The shrike is known to occur on the installation.

Yellow-crowned night heron, *Nycticorax violaceus* (RST): An uncommon summer resident of the coastal plain, and rare in winter; may be seen on the installation.

Reptiles

Bog turtle, *Clemmys muhlenbergi* (C2, SE): This species may occur on the installation. The turtle is usually found in bogs, swamps, and clear, slow streams with muddy bottoms.

Endangered Species Summary

Bald eagles occur as transients on the installation. Peregrine falcons may be seen as rare transients. The state listed loggerhead shrike is known to occur on the installation. Henslow's sparrow as well as the northern harrier may be seen as transients. Bog turtles may be found in pond or slow streams of the installation.

FORT BELVOIR

MDW

9,939 Acres Virginia

Main County: Fairfax

Surrounding Counties: Fauquier, Louden, Prince William, Stafford, VA; Prince Georges and Charles, MD

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (RSE): Found in low wetland covered with brush and sedges and sometimes in clearings, this bird historically bred in eastern Virginia. Nesting was recorded in 1979 in Louden County.

Northern harrier, *Circus cyaneus* (RSE): Historically recorded as an uncommon migrant, this species may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): A migrant along the coast, the falcon may be seen on the installation.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): A major eagle roost occurs south of the installation on Mason Neck. Waters adjacent to the installation provide significant feeding areas. Several eagles have been observed foraging along these areas. An active nest site is located on the Accotink Wildlife Refuge, a reserve area for wildlife management on the fort.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): Historically recorded to breed in the area, the shrike may be seen on the installation.

Yellow-crowned night heron, *Nycticorax violaceus* (RST): An uncommon summer resident of the Coastal plain, and rare in the winter, this species may be seen on the installation.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Considered the rarest warbler in North America, this bird was historically reported in Virginia. Although no nests were recorded in the state, sightings were recorded in 1954 and 1958 at the mouth of Pohick Creek.

Reptiles

Wood turtle, *Clemmys insculpta* (RST): One adult was observed on the installation in 1988. Although often found near water, this species may wander through the weeds and meadows, and across open fields.

Mammals

Pygmy shrew, *Microsorex hoyi winnemana* (C2): This species was historically collected from an area less than 15 miles north from the installation. Forty-five specimens have been captured on the fort since 1987, all south of Route 1.

Endangered Species Summary

Adult and immature bald eagles are known to use the installation for foraging. An eagle nest site has also been observed. The wood turtle is also known to occur on the installation. The peregrine falcon may be seen as a rare transient. The rare Bachman's warbler was historically recorded in the area, although this species may be extinct. State species of concern which may be seen on the installation include Henslow's sparrow, northern harrier and loggerhead shrike. The pygmy shrew has recently been documented.

FORT BENNING

TRADOC

18,1618 Acres

Georgia

Main Counties: Muscogee, Chattahoochee, GA; Russell, AL

Edge Counties: Marion, Talbot

Surrounding Counties: Harris, Stewart, Webster

VERTEBRATES

Birds

American peregrine falcon, *Falco peregrinus anatum* (FT, SE): This falcon is a migrant through Georgia, and its occurrence on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): This falcon is a migrant through Georgia, and its occurrence on the installation is possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Bald eagles are transitory in Muscogee and Chattahoochee Counties. Their occurrence around the installation is possible, and they would most likely be found foraging around the Chattahoochee River and Upatoi Creek.

Wood stork, *Mycteria americana* (FE): This species may occur in Russell County, Alabama. The birds may travel up to 50 km from where they nest to feed. Falling water levels with high concentrations of fish are ideal foraging conditions, and the storks may be found within or around the installation if such conditions exist.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): The second highest (may be highest in 1990) number of red-cockaded woodpeckers in the state of Georgia are present on the installation. As many as 65 to 70 colony sites are present.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1, ST): Historically a locally common winter resident in the area, this bird may occur on the installation.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA): This species occurs throughout the state and is found on the installation in swamp or riverine areas. Alligators have been recorded in Upatoi Creek and many man-made ponds on the post.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Alabama and Georgia, the installation is within its historic range.

Indiana bat, *Myotis sodalis* (FE, SE): The bat may be found in Chattahoochee and edge counties, and Russell County, Alabama. Although hibernacula probably do not occur near the installation, the bats may be found individually while foraging or migrating.

Florida panther, *Felis concolor coryi* (FE): Although a very rare transient in Georgia, this species was once found throughout the state. Wild populations still exist, making its occurrence on the installation possible, but unlikely.

Eastern cougar, *Felis concolor cougari* (FE, SE): Although a very rare transient in Georgia, this species was once found throughout the state. Its occurrence on the installation is possible, but unlikely.

Fish

Bluestripe shiner, *Notropis callitaenia* (C2): This is a large stream species historically collected in the Chattahoochee River drainage. Its occurrence in waters around the installation is possible.

INVERTEBRATES

Mollusks

Lined pocketbook, *Lampsilis binomata* (C2): This species was found in the Chattahoochee River at Columbus, which is less than 6.2 km from the installation.

Shiny-rayed pocketbook, *Lampsilis subangulata* (C2): This species was recorded from Uchee Creek, at Fort Mitchell, Alabama, which is less than 3.1 km from the installation.

Oval pigtoe, *Pleurobema pyriforme* (C2): This species was found in the Chattahoochee River in Columbus, which is less than 6.2 km from the installation.

Albany snail, *Goniobasis albanyensis* (C2): This species was recorded from Fort Mitchell, Russell County, Alabama, which is less than 3.1 km from the installation. It also was found in Uchee Creek, 3.8 km northeast of Seale, Alabama, less than 6.2 km from the installation.

Endangered Species Summary

The red-cockaded woodpecker and American alligator are the only federally listed species known to exist on the installation. The bald eagle, wood stork, Indiana bat, and Peregrine falcon may use the installation for wintering, feeding areas, or during migration. Several candidate species for federal listing are known from the area, including Bewick's wren, bluestripe shiner, and several mollusks.

CAMP BLANDING

NGB

72,397 Acres

Florida

Main County: Clay

Surrounding Counties: Baker, Bradford, Duvall, Putnam, St. Johns

VERTEBRATES

Birds

Florida Scrub Jay, *Aphelocoma coerulescens coerulescens* (FT, ST): This bird is known from Clay and Putnam Counties. There are records of occurrences on the installation.

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE, SE): Formerly found throughout the state of Florida, this bird was probably last sighted in the early 1950s and is thought to be extinct.

American peregrine falcon, *Falco peregrinus anatum* (FT, SE): This falcon winters throughout Florida, making its occurrence on the installation possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): This falcon winters throughout Florida, making its occurrence on the installation possible.

Southeastern American kestrel, *Falco sparverius paulus* (C2, ST): At least one pair has been reported on the installation.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, ST): Eagles are known from Clay, Bradford, Putnam and St. Johns Counties. Although there may not be suitable nesting habitat, these birds may forage around or on Kingsley Lake.

Wood stork, *Mycteria americana* (FE, SE): Storks are recorded in Clay and surrounding counties. The birds may travel to feeding areas as far as 50 km from where they nest. Falling water levels with high concentrations of fish are ideal feeding conditions, and the birds may be found within or around the installation if such conditions exist.

Red-cockaded woodpecker, *Picoides borealis* (FE, ST): Several active colonies have been recorded on the base. Colonies are found in mature pine stands a minimum of 60 years in age.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Historically recorded wintering in and migrating through Florida, this species is now considered the rarest warbler in North America. The installation is within its historic range.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA): Because the alligator is found in freshwater areas throughout the state, its occurrence at Kingsley Lake is likely.

Eastern indigo snake, *Drymarchon couais couperi* (FI, ST): This species is found within Clay County and there are unconfirmed records of occurrence on the installation. Since this species is often found in the burrows of Gopher tortoise, which do occur on the camp, the occurrence of the indigo snake species is also likely.

Gopher tortoise, *Gopherus polyphemus* (C2): This species is known to occur on the installation.

Amphibians

Gopher frog, *Rana areolata* (C2): Known to occur in Clay County, this species also has been recorded on the installation.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Florida, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE, SE): Although this species is very rare in northern Florida, the installation is within its historic range. Occurrence on the installation is unlikely but possible.

Sherman's fox squirrel, *Sciurus niger shermani* (C2): These squirrels are known to occur on and around the installation.

Florida black bear, *Ursus americanus floridanus* (C2, ST): This species is found in Clay County. Since bears have a large range, it may occur on the installation, although only temporarily.

Endangered Species Summary

The Florida scrub jay, bald eagle, and red-cockaded woodpecker, and possibly the American alligator occur within the installation. The wood stork and eastern indigo snake should also be looked for on the installation. The Arctic and American peregrine falcon may occur during migration. Candidate species found include the Southeastern American kestrel, the gopher tortoise, the gopher frog, and Sherman's fox squirrel.

FORT BRAGG FORSCOM 133,034 Acres North Carolina

Main Counties: Hoke, Cumberland

Edge County: Moore

Surrounding Counties: Bladen, Harnett, Lee, Moore, Richmond, Robeson, Sampson, Scotland

VERTEBRATES

Birds

Bachman's sparrow, *Aimophila aestivalis* (C2, ST): A large breeding population (12 or more males) has been noted throughout the installation. A few also have been seen in the winter and are presumed to be year-round residents. Possible effects of pine straw harvesting on this species should be evaluated.

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE): Although this species was found throughout the southeast, its present distribution is unknown, and it is thought to be extinct.

Kirtland's warbler, *Dendroica kirtlandii* (FE, SE): This species are rare transients migrating through the Carolinas. It may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This bird may be found anywhere throughout the state, although its occurrence is uncommon. It is not known to nest in the area.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This bird may be found anywhere throughout the state, although its occurrence is uncommon. It is not known to nest in the area.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Known to occur in Richmond County, the occurrence of the bald eagle on lakes around the installation is possible.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): Several hundred active colonies have been recorded on the installation since 1982.

Bachman's warbler, *Vermivora bachmainii* (FE) This bird once was found throughout the southeast, including the area of the installation. Its present distribution is unknown, and it is possible that it is extinct.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA, ST): This species has been recorded in areas on and around the installation.

Mammals

Red wolf, *Canis rufus gregoryi* (FE, SE): Although this species is extirpated in North Carolina, the installation is within its historic range. Captive bred wolves have been reintroduced on the Alligator River National Wildlife Refuge in northeastern North Carolina.

Eastern cougar, *Felis concolor cougari* (FE, SE): Although wild populations are thought to still exist, the cougar is probably extirpated in North Carolina.

Fish

Sandhills chub, *Semotilus lumbee* (C2): This species has been recorded in Lumber and Cape Fear drainages, which are around the installation.

INVERTEBRATES

Mollusks

Cape Fear spike pearly mussel, *Elliptio marsupiobesa* (C2, ST): This mussel is found in several localities in the Cape Fear River near Fayetteville. The type locality is less than 8 km from the installation.

Endangered Species Summary

The red-cockaded woodpecker and the American alligator are the only federally listed species known to occur on the installation. The Kirtland's warbler, peregrine falcons, and bald eagle are other federally listed species which may be transient through the area. The state listed Bachman's sparrow is known to occur on the installation. The Cape Fear spike mussel and the sandhill chub are category 2 species which may be found in waters around the installation.

FORT CAMPBELL

FORSCOM 105,224 Acres

Kentucky and Tennessee

Main Counties: Trigg, Christian, KY; Stewart, Montgomery, TN

Surrounding Counties: Caldwell, Calloway, Hopkins, Lyon, Marshall, Muhlenberg, Todd, KY; Benton, Cheatham, Dickson, Henry, Houston, Robertson, TN

VERTEBRATES

Birds

Piping plover, *Charadrius melanotos* (FT): A rare transient, the plover may be seen on shore areas of the installation. Breeding areas were recorded in Calloway County in 1982.

Common moorhen, *Gallinula chloropus* (KY: SE; TN: ST): A rare transient and extremely rare winter resident, the moorhen may breed in areas on or around the installation.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2): An uncommon to fairly common resident, the shrike is found in a variety of semi-open and open habitats. It may breed in areas on or around the installation.

Cooper's hawk, *Accipiter cooperii* (TN: ST): Although it is rare, this hawk is considered a permanent resident throughout Tennessee. In Kentucky, it is an uncommon to common resident which breeds throughout the state. It has been recorded year round in Stewart and Montgomery Counties, Tennessee. These hawks are most likely to be seen on the installation from September through November when additional migrants from the north are present.

Sharp-shinned hawk, *Accipiter striatus* (TN: ST): In Kentucky, the sharp-shinned hawk is a very rare to rare resident and an uncommon to common transient. It is, however, a permanent resident which may be found anywhere in Tennessee. Recorded from Stewart and Montgomery Counties throughout the year, it may be found within the installation.

Spotted sandpiper, *Actitis macularia* (KY: SE): In Kentucky and Tennessee, this bird is considered a common fall and spring migrant and an occasional summer resident. It is also an uncommon to rare wintering bird. It is listed year round in Montgomery County and was recorded in Stewart County, Tennessee from April through May. Since this species is found almost anywhere near water, it may be seen on the installation.

Bachman's sparrow, *Aimophila cestivalis* (C2, KY: ST; TN: SE): This bird is listed as occurring in Montgomery City, Tennessee, and may nest in this area. In Kentucky this bird is a rare summer resident. Its preferred habitat includes open pastures, thick grass with low trees, open grassy woodlands and old fields.

Grasshopper sparrow, *Ammodramus savannarum* (TN: ST): Observations in 1979 were recorded northwest of New Providence, less than 3.1 km from the installation. This species is considered a summer resident and uncommon to rare winter visitor in Kentucky and Tennessee. It may be found on the installation.

Blue-winged teal, *Anas discors* (KY: SE): A common transient in Kentucky in the late spring and early fall, this species has been observed on Kentucky Lake.

Golden eagle, *Aquila chrysaetos* (TN: SE): An uncommon winter visitor and transient, this eagle has been recorded in Stewart County from August through February. It is a regular winter visitor at Land Between the Lakes.

Great blue heron, *Ardea herodias* (TN: ST): An uncommon to rare permanent resident, the Great Blue has been recorded in Stewart and Montgomery Counties year round. These birds require freshwater marsh areas for breeding and feeding.

Upland sandpiper, *Bartramia longicauda* (KY: SE): Historical records indicate this species was recorded during spring migration in Trigg County. This bird is a rare to uncommon transient in Kentucky.

American bittern, *Botaurus lentiginosus* (KY: SE; TN: SE): An uncommon permanent resident of low-lying marshy habitats, this species has been recorded in March through September in Montgomery County and October through February in Stewart County. It has also been recorded as a migrant in Trigg County. Most bitterns are observed during migration.

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE) Although this bird is thought to be extinct, it once was found throughout the southeast. In Kentucky, the bird was recorded as a resident along the Mississippi River and the lower Ohio River. Records for these birds in Kentucky and Tennessee are sketchy, but the installation may have been within the bird's historic breeding range.

Great egret, *Casmerodius albus* (KY: SE): The egret is an uncommon transient and non-breeding summer visitor, and a very rare and local summer resident in Kentucky. Historically, it was recorded in Trigg County, and Kentucky Woodlands National Wildlife Refuge (NWR) in the spring. In Tennessee the egret is considered an uncommon to rare summer resident and a rare wintering bird and an uncommon transient. It was recorded April through September in Stewart County and October through March in Stewart and Montgomery Counties.

Lark sparrow, *Chondestes grammacus* (KY: SE): In Kentucky this bird is a rare spring transient and summer resident. It has been recorded as a fall migrant in Kentucky Woodlands NWR in Trigg County, and Hopkins and Calloway Counties. In Tennessee it is listed as an uncommon to rare and very local summer resident and nesting species, and an uncommon transient and rare wintering bird. This bird has been recorded from March through October in Montgomery County.

Northern harrier, *Circus cyaneus hudsonius* (TN: ST): In Tennessee and Kentucky, this bird is an uncommon to rare transient in spring and fall and an uncommon to rare winter visitor. Recorded from August to May in Stewart and Montgomery Counties, its occurrence on the installation is possible.

Little blue heron, *Egretta caerulea* (KY: SE): Usually found in shallow-water marshes and upland meadows, records indicate this bird was seen in Stewart and Montgomery Counties from March through mid-November. From 1981 to 1983 the little blue nested in a Black-crowned night heron colony on an island in Lake Barkley.

American peregrine falcon, *Falco peregrinus anatum* (FE, KY: SE, TN: SE): This falcon is an uncommon to rare transient in the spring and fall, and an extremely rare transient and winter visitor in Kentucky. It may be found on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FE, KY: SE; TN: SE): Listed as occurring in Trigg county, this falcon is an uncommon to rare transient in the spring and fall and is an extremely rare transient and winter resident in Kentucky. It may be seen on the installation.

American coot, *Fulica americana* (KY: SE): In Kentucky and Tennessee, the coot is a fairly common spring and fall migrant, and rare as a summer resident and nesting species. In Tennessee it is a common to locally abundant winter visitor. This bird has been recorded from May through September in Montgomery County and October through April in both Stewart and Montgomery Counties.

Bald eagle, *Haliaeetus leucocephalus* (FE, KY: SE; TN: SE): Bald eagles occur in the Land Between the Lakes area. An unsuccessful nesting attempt was made in the area in 1974. Their occurrence on the installation foraging or migrating is likely. Historically recorded as a very rare summer visitor in Kentucky (probably the southern subspecies *leucocephalus*). Fall and spring transients are probably both *leucocephalus* and the northern subspecies *alascanus*. Rare to fairly common winter residents historically recorded in Kentucky were thought to be subspecies *alascanus*, and are probably the wintering subspecies on the installation.

Least bittern, *Ixobrychus exilis* (KY: SE; TN: ST): An uncommon to rare transient across Kentucky and Tennessee during April and May and again in September and October, bitterns inhabit freshwater marshes and pond edges. These birds have been recorded in Stewart and Montgomery Counties from April through mid-October.

Hooded merganser, *Lophodytes cucullatus* (KY: SE): In Kentucky this bird is a fairly common to common transient and winter resident. It is a rare summer resident in western Kentucky and breeds locally. In winter, large flocks have been recorded from the Land Between the Lakes. Historic records indicate this bird was found during the summer in Trigg County.

Black-crowned night heron, *Nycticorax nycticorax* (KY: SE; TN: ST): Breeding colonies were recorded in 1984 on an Island in Lake Barkley. These birds will nest in pine stands and are usually found in marshes, swamps, creeks and wooded streams. Their occurrence as post-breeding wanderers on the installation is possible.

Yellow-crowned night heron, *Nycticorax violacea* (KY: ST; TN: ST): Historically this heron was found September through February in Stewart and Montgomery Counties, Tennessee. It has been recorded in Trigg county, Kentucky. Breeding was recorded in Calloway County in 1988. These herons are usually found in forested areas near swamps or sloughs, and their occurrence foraging or as post-breeding wanderers on the installation is possible.

Osprey, *Pandion haliaetus* (KY: SE; TN: SE): In 1986, there were active nests in Calloway and Trigg Counties. It was recorded in Lyon County in 1988. A rare and local summer resident in Tennessee, the osprey was recorded in Montgomery county from April through October. This bird is a common spring and fall migrant and rarely winters in the area. Ospreys are found around streams, lakes, and ponds. Its occurrence on or around the installation is likely.

Double-crested cormorant, *Phalacrocorax auritus* (KY: SE): In Kentucky the cormorant is an uncommon transient, rare winter resident, and rare nonbreeding summer visitor. In Tennessee, this bird is considered an uncommon to rare wanderer which may be found most often in fall and winter. Formerly the cormorant was a common permanent resident along the Mississippi River, and on parts of Kentucky Lake. It has been recorded from September through February in Montgomery County.

Pied billed grebe, *Podilymbus podiceps* (KY: SE): Recorded August through April in Stewart and Montgomery Counties, in Tennessee this species is a fairly common migrant in the spring and fall. It is a fairly common to uncommon winter visitor and a very uncommon to rare summer resident and breeding species. In Kentucky this bird is considered a fairly common to uncommon transient, a rare to uncommon winter resident, and a rare summer resident. Historical records indicate this species may have nested in Trigg County.

King rail, *Rallus elegans* (KY: SE; TN: SE): An uncommon to rare transient and an uncommon to rare summer resident, the rail is mainly found in marshy habitats. There is a nesting record for this species in Stewart County. This bird has also been recorded from April through July in Stewart County.

Virginia rail, *Rallus limicola* (TN: SE): An uncommon to rare transient and a rare winter visitor across Kentucky and Tennessee, the rail is also a rare and local summer resident. It has been recorded in Montgomery County from August through April. These birds usually breed in marshy areas. During migration and winter the birds are sometimes found in drier, brushy fields.

Bank swallow, *Riparia riparia* (TN: ST): An uncommon to rare local summer resident and breeding bird across Tennessee, the swallow has been recorded April through October in Montgomery County. Nesting colonies have been recorded from Lyon County. Swallows are found near water during migration and while nesting.

Interior least tern, *Sterna antillarum athalassos* (FE, KY: SE; TN: SE): Although this species is an uncommon to rare transient in areas away from the Mississippi River, its occurrence on the installation is possible. In Tennessee, it is considered an uncommon to rare transient and wanderer. It has been recorded in Montgomery County from late March through late September.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1; TN: ST): Listed in Montgomery County, Tennessee, this species was observed less than 3.1 km from the installation. It is a permanent resident throughout Tennessee.

Common barn owl, *Tyto alba* (TN: SE): A rare to very uncommon resident in Kentucky and Tennessee, these owls are found in open rural areas as well as towns and cities. This species has been recorded in Montgomery County.

Bachman's warbler, *Vermivora bachmani* (FE, KY: SE): Considered the rarest warbler in North America, this bird's historical range was probably throughout the southeast. Although breeding records are sketchy, this warbler was recorded as a casual summer resident in southwestern Kentucky.

Reptiles

Alligator snapping turtle, *Macroclemys temmincki* (C2, KY: ST) This species inhabits the Tennessee and Cumberland Rivers and occurs on the Land Between the Lakes and in Stewart County, Tennessee. Although rare, it may be found in rivers or swampy areas in and around the installation.

Northern copperbelly water snake, *Nerodia erythrogaster neglecta* (C2): Listed as occurring in Montgomery County, Tennessee, this species was collected in an area less than 6.2 km from the installation.

Northern pinesnake, *Pituophis melanoleucus (melanoleucus)* (C2; TN: ST): Listed as occurring in Montgomery County, the occurrence of this snake on the installation is possible. It is usually found in sandy pine woods or dry mountain ridges.

Western pygmy rattlesnake, *Sistrurus miliarius (streckeri)* (KY: ST; TN: ST): Listed as occurring in Montgomery County, the occurrence of the snake on the installation is possible. This species is usually found near water in river floodplains, swamps, or marshes, but also inhabits drier wooded uplands.

Mammals

Pygmy shrew, *Microsorex hoyi winnemana* (C2): The pygmy shrew may be collected in areas around the installation. It has been found in various habitats, including bogs, woods, grassy fields, and brushy areas on forest edges.

Red wolf, *Canis rufus gregoryi* (FE): Extirpated from Tennessee and Kentucky, this species once ranged throughout the southeastern United States. Only about 40 captive individuals remain today.

Eastern cougar, *Felis concolor cougari* (FE, KY: SE; TN: SE): Although the cougar has been extirpated throughout most of its historical range, wild populations are thought to still exist. Listed as possibly occurring in Trigg and Lyon counties, Kentucky and Stewart County, Tennessee, the cougar's occurrence on the installation is possible.

River otter, *Lutra canadensis* (TN: ST): the river otter is usually found in streams, rivers, and lakes usually bordered by woods. The occurrence of the otter on the installation is possible.

Southeastern bat, *Myotis austroriparius* (C2; KY: SE): Listed in Christian County, Kentucky, this bat is known from a cave near Hopkinsville. These bats forage just above the surface of quiet water. Habitats used for nursery colonies are unknown. It is possible these bats may be seen foraging on the installation.

Gray bat, *Myotis grisescens* (FE, KY: SE; TN: SE): Known in all main counties and Caldwell and Todd Counties, the occurrence of this bat foraging on the installation is likely. Historically, nursery colonies were recorded in caves in Trigg County.

Indiana bat, *Myotis sodalis* (FE, KY: SE; TN: SE): This species is known to occur in Trigg County, Kentucky, and Stewart and Montgomery Counties, Tennessee, and may occur in Christian and all surrounding counties. Historical records (1965) indicate it was collected in Cooper Creek Cave (also known as Fosters Cave), 1 km SE of Oakwood, less than 3.1 km from the installation. Occurrence of foraging or migrating bats on the installation is possible.

Eastern small-footed bat, *Myotis sublatus leibii* (C2, KY: SE): This bat inhabits old mines and buildings, and is found under bark and beneath slabs of rocks in quarries. Listed as occurring in Montgomery County, Tennessee, little else is known of its existence.

Evening bat, *Nycticeius humeralis* (KY: SE; TN: ST): Uncommon summer resident ranging in the western and southern part of Kentucky, it usually is found in buildings and tree cavities.

Rafinesque's big-eared bat, *Plecotus rafinesquii* (C2; KY: ST): A scarce species in Tennessee, this bat usually is found roosting in unoccupied buildings or other man-made structures. Since it ranges statewide

in Tennessee and western and eastern areas of Kentucky, it is possible this bat may be seen on and around the installation.

Amphibians

Bird-voice tree frog, *Hyla avivoca* (KY: ST): Historically recorded in Trigg County, this species may be found around the installation.

Hellbender, *Cryptobranchus alleganiensis* (C2): The hellbender is found in Stewart and Montgomery Counties, Tennessee, and Christian County, Kentucky. It was recorded from Little Fork Creek near U. S. Highway 41A less than 1.3 km from the installation.

Fishes

Smallscale darter, *Etheostoma proeliare* (KY: SE): This darter has been collected from the Little River. Activities on the installation may affect habitat for this species.

Slender madtom, *Noturus exilis* (KY: SE): Collected from a tributary on Lake Barkley less than 1.3 km from Fort Campbell, this fish may be affected by activities on the installation.

Lake sturgeon, *Acipenser fulvescens* (C2, KY: SE; TN: SE): Listed in Stewart County, Tennessee, this species was formerly found in the main channels of the Cumberland and Tennessee Rivers. Its occurrence in the waters around the installation is possible.

Blue sucker, *Cyclopterus elongatus* (C2; TN: ST): Listed in Stewart County, Tennessee, this species was formerly found in the Tennessee River. Its occurrence in the waters around the installation is possible.

INVERTEBRATES

Mollusks

Eastern fanshell, *Cyprogenia stegaria* (FPE, KY: ST): Historically collected from the Cumberland River, populations of this mollusk may still persist.

Cumberland combshell, *Eproblasma brevidens* (C2, SE): Historically recorded in the Cumberland River, this species may still persist in watersheds around the installation.

Yellow-blossom pearly mussel, *Epiobalsma florentina* (FE, KY: SE; TN: SE): Historically found in the lower Red River, this species may still persist in watersheds around the installation.

Purple catspaw pearly mussel, *Epioblasma obliquata* (FPE, KY: SE). This species may still persist in the Cumberland River.

Dromedary pearly mussel, *Dromus dromas* (FE, KY: SE; TN: SE): This species was historically found in the main channels of the Tennessee and Cumberland Rivers. It is listed in Montgomery and Stewart Counties, Tennessee. Impoundments have made the occurrence of this species around the installation unlikely.

Tan riffle shell, *Epioblasma florentia walkeri* (FE, KY: SE; TN: SE): This species was found in the lower Red River in Montgomery County, Tennessee, in an area less than 9.4 km from the installation. Impoundments have made the occurrence of this species around the installation unlikely.

Pink mucket pearly mussel, *Lampsilis abrupta orbiculata* (FE, KY: SE; TN: SE): Historically recorded in Tennessee and Cumberland drainages, this species has been listed in Montgomery and Stewart Counties, Tennessee. It is known to occur in Marshall County, Kentucky. Occurrence near the installation is possible.

Golf-stick pearly mussel, *Obovaria retusa* (FE, KY: SE): Historically, this species was collected in Stewart County, Tennessee. It is also listed in Trigg County. Its occurrence in waters around the installation is unlikely.

Orange-footed pearly mussel, *Plethobosus cooperianus* (FE, KY: SE; TN: SE): Historically this species was common in the Cumberland River from Clay to Stewart Counties, Tennessee. It was also recorded in the lower Tennessee River from Hardin to Stewart Counties. It is listed as possibly occurring in Trigg County, Kentucky and Montgomery and Stewart Counties, Tennessee. Its occurrence in waters around the installation is possible.

Rough pigtoe, *Pleurobema plenum* (FE, KY: SE; TN: SE): This species was formerly widespread throughout the Tennessee River. In the Cumberland River, it was found from Pulaski County, Kentucky to Montgomery County, Tennessee.

Rugged river snail (muddy rocksnail), *Lithasia salebrosa* (C2, TN: SE): Formerly found in the lower Cumberland River from Montgomery County, Tennessee to Trigg County, Kentucky. Listed as occurring within Montgomery County.

Armored rocksнail (armigerous river snail), *Lithasia armigera* (C2): This species was historically recorded from the Cumberland River down to Trigg County, and may still persist in watersheds around the installation.

Endangered Species Summary

Gray and Indiana bats and the bald eagle are the only federally endangered species likely to be found in the area. The grasshopper and Bachman's sparrow, Appalachian Bewick's wren, northern copperbelly water snake, northern pinesnake, western pygmy rattlesnake, and the hellbender are state threatened or endangered species found within the vicinity of the installation. The northern harrier, Cooper's and sharp-shinned hawks, night herons, osprey, and river otter are state listed species likely to be found. Southeastern and eastern small-footed bats may be seen foraging, and the fish and mollusk species listed may be found in waters in the area.

FORT DEVENS

FORSCOM

21,576 Acres

Massachusetts

Main Counties: Worcester, Middlesex

Surrounding Counties: Hampden, Norfolk

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (SE): This sparrow has been found in widely scattered areas throughout the state. It has been found in open fields with a dense growth of grass, weeds, and clover, although wet meadows may be its preferred habitat.

Upland sandpiper, *Bartramia longicauda* (SE): This bird has been recorded on the installation. The sandpiper is found in large expanses of grassy fields, particularly in mown grass next to airstrips.

Northern harrier, *Circus cyaneus* (ST): Formerly a common summer resident and a regular transient throughout Massachusetts, the harrier may be seen as a transient foraging in marsh or field areas on or near the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): Historically wintered in a steeple in Worcester. The reestablishment of this bird to its former breeding range, including areas of Massachusetts, is in progress. The occurrence of the falcon on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This peregrine may migrate through the area.

Bald eagle, *Haliaeetus leucocephalus (alascanus)* (FE, SE) The eagle is known from Hampden, Middlesex, and Worcester Counties. Its occurrence as a transient along riparian areas or lakes around installation is possible.

Least bittern, *Ixobrychus exilis* (ST): This bird has been recorded at the Bolton Flats Wildlife Management area and may occur in marsh areas around the installation.

Pied-billed grebe, *Podilymbus podiceps* (ST): This species has been recorded at the Oxbow National Wildlife Refuge and Bolton Flats Wildlife Management Area. Historically considered a local summer resident, an uncommon spring transient, and a common fall transient, the grebe may be seen in marsh or pond areas around the installation.

Reptiles

Blanding's turtle, *Emydoidea blandingii* (ST): This turtle has been recorded at the Oxbow National Wildlife Refuge. It usually inhabits densely vegetated shallow ponds, marshes, or small streams.

Mammals

Eastern cougar, *Felis concolor cougari* (FE) Listed as possibly occurring in Worcester County, this subspecies of the cougar may be extirpated from the area.

Eastern small-footed bat, *Myotis subulatus leibii* (C2): The bat's range is within the area of the installation. These bats will roost in buildings, and they may be seen foraging or migrating in areas around the installation.

Indiana bat, *Myotis sodalis* (FE): The bat has been collected in Hampden County and may also occur in Middlesex and Worcester Counties. It may be seen foraging or migrating through riparian areas of the installation.

New England cottontail, *Sylvilagus transitionalis* (C2): The cottontail has been recorded in Worcester and Middlesex Counties. They may be found in different varying habitats including beach, salt marsh, oak forest with a heavy understory, and open upland fields with little cover.

Amphibians

Marbled salamander, *Ambystoma opacum* (ST): The salamander is found in low areas around ponds, swamps, and quiet streams during the breeding season. Its range includes areas around the installation.

Endangered Species Summary

No federally listed species are known to occur on the installation, although the bald eagle, peregrine falcon, and Indiana bat may occur as transients. The eastern small-footed bat and the New England cottontail are candidate species that may be found in the area. The upland sandpiper is the only state listed species that is known on the installation. The least bittern, pied-billed grebe, and Blanding's turtle are known to occur less than 16 km from the installation. The Henslow's sparrow and northern harrier may occur as migrants or transients. The marbled salamander may be found in swampy or riparian areas around the installation.

FORT DIX

TRADOC

3., 39 Acres New Jersey

Main Counties: Burlington, Ocean

Surrounding Counties: Atlantic, Camden, Mercer, Monmouth

VERTEBRATES

Birds

Cooper's hawk, *Accipiter cooperii* (SE): Known to occur in the winter in Burlington and Ocean Counties, this species is found primarily in mature forests or open woodland and forest edges.

Northern goshawk, *Accipiter gentilis* (ST): A rare breeder, migrant, and winter visitor, the goshawk may be seen as a transient on the installation.

Grasshopper sparrow, *Ammodramus savannarum* (ST): Known to breed in Burlington County, this species was recorded in the area in 1987. The sparrow is found in prairie, old fields, and open grasslands. Its occurrence on the installation is possible.

Great blue heron, *Ardea herodias* (ST): Known year-round in Burlington County (although not recorded as breeding) and known to breed in Ocean County, this bird may be found in marsh or riparian areas of the installation.

Short-eared owl, *Asio flammeus* (SE): Found in open country including marshes and open woodlands, this owl may be found in Ocean County. Its occurrence on the installation is possible.

Upland sandpiper, *Bartramia longicauda* (SE): Known to breed in Burlington County, the sandpiper may be found in grassland areas, especially dry meadows and pastures, on or around the installation.

American bittern, *Botaurus lentiginosus* (ST): This species may possibly occur in Burlington and Ocean Counties. A summer and fall resident as well as breeder in the state, the bittern may be found in marsh or bog areas on or around the installation.

Red-shouldered hawk, *Buteo lineatus* (ST): Known as a wintering species around wooded swamps and open woodlands in Ocean County, the hawk may occur on the installation.

Piping plover, *Charadrius melanotos* (FE, SE): Known to breed along beaches and around ponds, lakes, and impoundments in Ocean County. Its occurrence as a transient on the installation is possible.

Northern harrier, *Circus cyaneus* (SE): Known as a year-round resident in Burlington and Ocean Counties, the harrier may be found in marsh or grassland areas on or near the installation.

Sedge wren, *Cistothorus platensis* (SE): A summer and fall resident as well as a breeder in New Jersey, this species may be found in grasslands and marshes in Ocean County. Its occurrence on the installation is possible.

Bobolink, *Dolichonyx oryzivorus* (ST): A fall migrant rarely found in the spring or breeding in the summer, the bobolink may be found in Burlington County. Its occurrence on the installation is possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): Known as a year-round resident in Ocean County along the coast, this species may be seen on the installation. Breeding populations are being reestablished in the state.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): Known as a migrant throughout the state, this species may be seen on the installation.

Cliff swallow, *Hirundo pyrrhonota* (SE): Artificial nest boxes have been placed on bridges of the Delaware River to help increase the population. The swallows may occur as rare migrants around riparian areas of the installation.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): Known in Ocean County during the winter, the shrike may be found in open areas with scattered trees and shrubs.

Black rail, *Laterallus jamaicensis* (ST): This rail is known to breed in Burlington and Ocean Counties. It may be found in marsh areas of the installation.

Red-headed woodpecker, *Melanerpes erythrocephalus* (ST): This species is known to occur year round in Burlington and Ocean Counties, and may be found on the installation. This bird is found in open woodland areas, especially with beech or oak and open areas with scattered trees.

Yellow-crowned night heron, *Nycticorax violaceus* (ST): Known to breed in marshes, swamps, and lakes of Ocean County, this heron may occur on the installation.

Osprey, *Pandion haliaetus* (ST): Known to breed in Burlington and Ocean Counties, the osprey may be found around riparian areas of the installation.

Savannah sparrow, *Passerculus sandwichensis* (ST): This species is known to occur year round in Burlington County and winters in Ocean County. It may be found on the installation in open areas, particularly grasslands and marsh areas.

Pied-billed grebe, *Podilymbus podiceps* (SE): Found in lakes, ponds, and marshes year round in Burlington County, the grebe has also been recorded as wintering and breeding in Ocean County. Its occurrence on the installation is possible.

Vesper sparrow, *Pooecetes gramineus* (SE): Known to occur year round in Burlington County, this species may be found on the installation. The sparrow is found in pastures, fields, or woodland clearings.

Eastern least tern, *Sterna antillarum antillarum* (FE, SE): Known to breed in Ocean County, eastern least terns may be seen as transients on riparian areas of the installation.

Barred Owl, *Strix varia* (ST): This species is known to occur year round in dense woodland and forest as well as swamp areas in Burlington and Ocean Counties. Its occurrence on the installation is possible.

Reptiles

Wood turtle, *Clemmys insculpta* (ST): This turtle is known to occur in Burlington and Ocean Counties and was recorded in the area in 1987. It may be found in swamp or riparian areas of the installation.

Bog turtle, *Clemmys muhlenbergi* (C2, SE): This species is known to occur in Burlington and Ocean Counties and was recorded in the area in 1987. It may be found in swamp or riparian areas of the installation.

Timber rattlesnake, *Crotalus horridus* (SE): Historically known to occur in Burlington and Ocean Counties, the rattlesnake may be found on the installation. The snakes are found in wooded rocky hillsides and swampy areas.

Corn snake, *Elaphe guttata* (SE): Found on rocky hillsides, in meadows and riparian areas, as well as abandoned or outlying buildings, this species has been recorded in Burlington and Ocean Counties. Its occurrence on the installation is possible.

Northern pine snake, *Pituophis melanoleucus melanoleucus* (C2, ST): Found in lowlands, marshes, and woodland areas as well as coniferous forests and farmland areas, this species is known to occur in Burlington and Ocean Counties. Its occurrence on the installation is possible.

Mammals

Mountain lion, *Felis concolor cougari* (FE): Although thought to be extirpated from New Jersey, historically, the cougar was found in this area.

Small-footed bat, *Myotis sublatus leibii* (C2): Historically collected from a cave near Trenton, this bat may be seen as a transient on the installation.

New England cottontail, *Sylvilagus transitionalis* (C2): This cottontail occurs within the range of the installation and may be seen there.

Amphibians

Eastern tiger salamander, *Ambystoma tigrinum tigrinum* (SE): Known in Burlington and Ocean Counties, the salamander may occur on the installation. It is found in various habitats that have a nearby water source suitable for breeding.

Pine barrens tree frog, *Hyla andersonii* (3C, SE): Recorded in Burlington and Ocean Counties (last record in 1983), this species may be found in ponds or riparian areas around the installation. After breeding, the frogs inhabit woodlands bordering ponds and streams.

Mud salamander, *Pseudotriton montanus* (ST): This species may occur in Burlington and Ocean Counties in muddy springs and slow floodplain streams. Its occurrence on the installation is possible.

Fish

Brook trout, *Salvelinus fontinalis* (ST): This species may be found in waters around the installation.

INVERTEBRATES

Barren's bluet damselfly, *Enallagma recurvatum* (C2): This species was found in the area in 1987.

Daecke's pyralid moth, *Crambus daeckeellus* (C2): Endemic to New Jersey pinelands. Recorded from pitch pine lowlands of Ocean County.

Buchholzi's dart moth, *Agrotis buchholzi* (C2): Endemic to New Jersey pinelands. Fairly common in Ocean and Burlington Counties.

Lemmer's pinnion moth, *Lithophane lemmeri* (C2): Found in white-cedar swamps of New Jersey pinelands.

Endangered Species Summary

No known federally listed species occur on Fort Dix, although the piping plover, and the peregrine falcon may occur as rare migrants or transients. The Barren's bluet damselfly is a category species recently found in the area. The grasshopper sparrow is a nesting species recently found within the area, and the loggerhead shrike may nest around Fort Dix as well. The brook trout, wood and bog turtles may be found in watershed areas. Amphibians that may be found in these areas include the pine barrens tree frog, and the mud and tiger salamanders. Several bird species may occur as transients on the installation. These include the state listed least tern, Cooper's hawk, red-shouldered hawk, northern goshawk, and northern harrier. Various shore and marsh birds may also be found. Other species include the short-eared and barred owls as well as the red-headed woodpecker. Five reptile species may also be found on Fort Dix.

FORT DRUM

FORSCOM

110,958 Acres

New York

Main Counties: Jefferson, Lewis

Edge County: St. Lawrence

Surrounding Counties: Herkimer, Oneida, Oswego

VERTEBRATES

Birds

Golden eagle, *Aquila chrysaetos* (SE): A rare to uncommon migrant, the occurrence of this species on the installation is possible.

Red-shouldered hawk, *Buteo lineatus* (ST): This hawk is a common to locally abundant migrant, particularly along Lake Ontario. Its breeding range also includes the area around the installation.

Northern harrier, *Circus cyaneus* (ST): A common to very abundant migrant, especially in the spring along Lake Ontario, this species may be seen on the installation. It may also breed in the area.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This species is a rare migrant through the area, although reintroductions have improved the likelihood that a falcon may be encountered.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This species is a rare migrant throughout the area.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): Known to breed in Jefferson and St. Lawrence Counties, this species may be seen as a transient or migrant on the installation.

Osprey, *Pandion haliaetus* (ST): A fairly common to common migrant along Lake Ontario, the osprey may be seen around riparian areas on the installation.

Common tern, *Sterna hirundo* (ST): A locally abundant breeder in Jefferson County, the terns may be seen around riparian areas of the installation as they migrate.

Mammals

Mountain lion, *Felis concolor cougari* (FE, SE): Although thought to be extinct, the cougar was historically found in this area.

Indiana bat, *Myotis sodalis* (FE, SE): The bat is known to occur in Jefferson County and may occur in Lewis and the surrounding counties. Its occurrence while foraging or migrating in riparian areas of the installation is possible.

Endangered Species Summary

Locally abundant breeding birds in the area include the bald eagle and the common tern. The golden eagle, red-shouldered hawk, northern harrier, peregrine falcon, and osprey may migrate along areas of the installation. The Indiana bat may be seen foraging or migrating on areas of the installation.

CAMP EDWARDS NGB 14,200 Acres Massachusetts

Main County: Barnstable

Surrounding Counties: Dukes, Plymouth, Nantucket

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (SE): This sparrow has been recorded in widely scattered areas throughout the state. It has been found in open fields with a dense growth of grass, weeds, or clover, although wet meadows may be its preferred habitat.

Short-eared owl, *Asio flammeus* (SE): This species resides in large, undeveloped expanses of coastal sandplain grassland and maritime heathlands. Breeding pairs are found in Barnstable County.

Upland sandpiper, *Bartramia longicauda* (SE): This bird has been recorded on the installation. The sandpiper is found in large expanses of grassy fields, particularly in mown grass next to airstrips.

Piping plover, *Charadrius melanotos* (FT): Over 20 percent of the Atlantic coast population of this species is found in Massachusetts. It nests in Sandy Neck which is less than 16 km east of the installation. This bird also is known from Dukes and Plymouth Counties.

Northern harrier, *Circus cyaneus* (ST): This bird is known to winter regularly on Cape Cod, recent records verified since 1978 have indicated nesting on the Elizabeth Islands in Dukes County. Its occurrence on the installation is likely.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): The peregrine migrates along the coast, and may be seen around the installation. A breeding population of this species recently has been reintroduced in the area.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This species migrates along the coast, and may be seen on the installation.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): The bald eagle is known from Barnstable and surrounding counties. It may be seen foraging on riparian or lake areas near the installation.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2): Historically regarded as a regular late summer migrant to the coast, its occurrence on the installation is possible.

Northern parula, *Parula americana* (ST): Known to breed in eastern Massachusetts and Cape Cod, this warbler usually inhabits wet woodlands, river margins, and pond shores. Its occurrence on the installation is possible.

Pied-billed grebe, *Podilymbus podiceps podiceps* (ST): Historically considered a local summer resident, an uncommon spring transient, and a common fall transient, the grebe may be seen in marsh or pond areas around the installation.

King rail, *Rallus elegans* (ST): This bird may breed and winter on the installation. The rail winters in saltwater marshes. In Massachusetts, it breeds locally where there are large freshwater and brackish marshes dominated by cattails and other emergent vegetation.

Roseate tern, *Sterna dougallii* (FE, SE): Approximately 50 to 80 percent of the Northeastern population of this tern has been concentrated around Cape Cod. Its occurrence on the installation while foraging or as a migrant is possible.

Mammals

Eastern small-footed bat, *Myotis sublatus leibii* (C2): The installation is within the bat's range. These bats will roost in buildings, and they may be seen foraging or migrating in areas around the installation.

New England cottontail, *Sylvilagus transitionalis* (C2): The cottontail has been recorded in Barnstable and Dukes Counties. They may be found in a variety of habitats including beach, salt marsh, oak forest with a heavy understory, and open upland fields with little cover.

Amphibians

Marbled salamander, *Ambystoma opacum* (ST): Found in low areas around ponds, swamps, and quiet streams during the breeding season. Its range includes areas around the installation.

Eastern spadefoot toad, *Scaphiopus holbrookii* (ST): Recorded in Barnstable County, the toad requires sandy soils and temporary pools for breeding. Its occurrence on the installation is possible.

Fish

Shortnose sturgeon, *Acipenser brevirostrum* (FE, SE): Found in coastal waters, installation activities may affect this species.

American brook lamprey, *Lampetra appendix* (ST): Found in coastal waters, installation activities may affect this species.

INVERTEBRATES

Others

Gerhard's underwing moth, *Catocala herodias gerhardi* (ST): This moth has been recorded on the installation. It usually inhabits oak-pine barrens.

Endangered Species Summary

No federally listed species are known to occur on the installation, although the piping plover, roseate tern, and bald eagle are known to breed nearby and may be seen as transients or while foraging on the installation. Peregrine falcons, as well as the loggerhead shrike and eastern small-footed bat, may migrate through the area. The New England cottontail may also be found in the area. The upland sandpiper and Gerhard's underwing moth are state listed species known to occur on the installation. Several state listed birds nest along Cape Cod and are likely to be seen in the area. The marbled salamander and eastern spadefoot toad may be seen in pond or stream areas. Two fish species found in coastal water may be affected by installation activities.

FORT EUSTIS

TRADOC

9,723 Acres Virginia

Main County: Newport News

Surrounding Counties: James City, Hampton, York

VERTEBRATES

Birds

Piping plover, *Charadrius melanotos* (FT, ST): Although these birds breed on the Barrier Islands and rarely west of the Chesapeake Bay, they may be seen as transients on the installation.

Wilson's plover, *Charadrius wilsoni* (SE): Nests on Northhampton County along the Atlantic coast. May be seen as transients on the installation.

Northern harrier, *Circus cyaneus* (RSE): Historically recorded as an uncommon migrant, this species may be seen on the installation.

Sedge wren, *Cistothorus platensis* (RSE): An uncommon to common transient and winter resident along the Atlantic coast, the wren may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This falcon has been known to nest on retired ships near Fort Eustis. It migrates along the coast and may be seen on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): Migrates along the coast and may be seen on the installation.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): Historically, at least four pairs of eagles have been known to nest on the installation. Eagles are known to nest within the James River watershed, including the Hog Island Refuge near Fort Eustis.

Yellow-crowned night heron, *Nycticorax violaceus* (RST): An uncommon summer resident of the Coastal plain, but rare in winter, this species may be seen on the installation.

Eastern least tern, *Sterna antillarum antillarum* (RST): Nests along the Atlantic coast, and feeds in the Chesapeake Bay Estuary. Former colonies were known from Cape Henry. Occurrence of this species on the installation is likely.

Gull-billed tern, *Sterna nilotica* (RST): Although this tern nests mainly on barrier islands along the Atlantic coast, it may be seen as a transient on the installation.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Considered the rarest warbler in North America, this bird was historically reported in Virginia. It may have occurred only as a migrant.

Reptiles

Atlantic loggerhead turtle, *Caretta caretta caretta* (FT, ST): Immature loggerheads forage in Chesapeake Bay. The occurrence of the loggerheads in waters around the installation is possible.

Canebrake rattlesnake, *Crotalus horridus (atricaudatus)* (RSE): Known from Newport News County, the snake may be found on the installation.

Endangered Species Summary

The bald eagle and peregrine falcon are two federally listed species known to occur on the installation. The piping plover may be seen as a transient. The Atlantic loggerhead turtle may be found in waters around the installation. Although the Bachman's warbler was historically recorded in the area, it may be extinct. State listed birds which may be found on the installation include Wilson's plover, northern harrier, sedge wren, yellow-crowned night heron, least tern, and the gull-billed tern. The canebrake rattlesnake may also occur in the area.

FORT GEORGE MEADE FORSCOM 13,728 Acres Maryland

Main County: Anne Arundel County

Edge County: Prince Georges

Surrounding Counties: Baltimore, Howard, Calvert; Across bay: Kent, Queen Annes, Talbot

VERTEBRATES

Birds

Bachman's sparrow, *Aimophila aestivalis* (C2): This bird was historically collected in various areas of Prince Georges County, including College Park. These areas are within a 8- to 16- km radius of the installation.

Kirtland's warbler, *Dendroica kirtlandii* (FE): An occasional migrant throughout the state, this warbler may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): Found as a migrant throughout the state, this species may be seen on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This falcon may be seen as a migrant on the installation. Although the falcon usually migrates along the coast, it may be seen throughout the state.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): The bald eagle is known to occur in Anne Arundel, Baltimore, and Prince Georges Counties. Because of the concentration of eagles around the Chesapeake Bay, these birds may be seen as migrants or transients on the installation. Fort George Meade now has an active bald eagle nest within its boundaries.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): An uncommon breeding and wintering species in the area, this bird may be seen on the installation.

Mammals

Southern pygmy shrew, *Microsorex hoyi winnemana* (C2): The shrew was historically recorded as rare, but may occur in all sections of Maryland. One was collected at Berwyn, Prince Georges County. This is within 24 km of the installation.

Eastern small-footed bat, *Myotis subulatus leibii* (C2): This bat may be seen anywhere in the state during migration. Its occurrence on the installation is possible.

Endangered Species Summary

No listed species are known on Fort Meade, but several may occur. The Kirtland's warbler, peregrine falcon, and bald eagle may be seen as migrants. The loggerhead shrike and Bachman's sparrow may migrate through areas of the installation as well. The southern pygmy shrew, a rare species in Maryland, and the eastern small-footed bat may also be found on or around the installation.

FORT GORDON **TRADOC** **56,662 Acres** **Georgia**

Main County: Richmond

Edge Counties: Columbia, McDuffie, Jefferson

Surrounding Counties: Warren, Glascock, Burke, GA; Edgefield, Aiken, SC

VERTEBRATES

Birds

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE, SE): This bird was once found through coastal and southern Georgia, and the installation is within its historic range.

American peregrine falcon, *Falco peregrinus anatum* (FT, SE): This falcon is a migrant throughout Georgia and was once recorded in Richmond County. Its occurrence on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): This falcon is a migrant throughout Georgia and its occurrence on the installation is possible.

Southern Bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): A transitory species in Richmond County, it is also known to occur in Columbia County.

Wood stork, *Mycteria americana* (FE): Storks are known to occur in Richmond County, Georgia and Aiken County, South Carolina, and could be found in Burke County, Georgia. The birds may travel up 128 km from nesting and feeding areas. Falling water levels with high concentrations of fish represent ideal foraging conditions. This bird may be found within or around the installation if such conditions exist.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): Four active nesting colonies are known on the installation.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1): This species has been recorded as a common summer resident in the mountain areas of Georgia. Nests were recorded from the Augusta area. Occurrence of this species on the installation is possible.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA): Alligators occur throughout the state and may be found on the installation in swamps or freshwater areas.

Eastern indigo snake, *Drymarchon couperi* (FT, ST). The installation is within its historical range. Although habitat is available, this snake has not been observed on the installation.

Gopher tortoise, *Gopherus polyphemus* (C2). The installation is within its historic range. Although habitat is available, the tortoise has not been found within the installation.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Georgia, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE): Although a very rare transient in Georgia, this species once was found throughout the state. Wild populations still exist, making the panther's occurrence on the installation possible, but unlikely.

Eastern cougar, *Felis concolor cougari* (FE, SE): Although a very rare transient in Georgia, this species once was found throughout the state. Wild populations still exist, making the panther's occurrence on the installation possible, but unlikely.

Indiana bat, *Myotis sodalis* (FE, SE): Although hibernacula probably do not occur near the installation, these bats may be found individually while foraging or migrating.

Endangered Species Summary

Red-cockaded woodpeckers are the only federally listed species known on the installation. Habitat is available for the eastern indigo snake and the gopher tortoise, but these species have not been found on the installation. The bald eagle, wood stork, and Appalachian Bewick's wren may be seen as transients. The Indiana bat and American alligator may also be seen on the installation. Peregrine falcons may occur during migration.

CAMP GRAYLING NGB 164,000 Acres Michigan

Main Counties: Crawford, Kalkaska

Surrounding Counties: Antrim, Grand Traverse, Missaukee, Oscoda, Otsego, Roscommon, Montmorency

VERTEBRATES

Birds

Short-eared owl, *Asio flammeus* (SE): An uncommon transient and an irregular local summer resident, occurrence of this bird on the installation is possible.

Red-shouldered hawk, *Buteo lineatus* (ST): Recorded in Grand Traverse and Otsego Counties, this hawk may be found on the installation.

Kirtland's warbler, *Dendroica kirtlandii* (FE, SE): The warbler is known to breed in areas of the installation where suitable jack pine stands and sandy soil conditions are found. About 30 percent of the state's warbler population is found within the post (i.e., 64 singing males).

Merlin, *Falco columbarius* (ST): The merlin may occur as an uncommon transient on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): The falcon may occur as an uncommon transient on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): The falcon may occur as an uncommon transient on the installation.

Common loon, *Gavia immer* (ST): A common transient and uncommon summer nesting resident in northern Michigan, this species is found in the main and surrounding counties. Its nesting or feeding on the installation is possible.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, ST): The eagle is recorded as breeding and wintering in Crawford and Kalkaska Counties. There are several active eagle nesting areas in and around the post. Two sites occur in Kalkaska County just north of the post's leased lands. One nesting area in Crawford County lies partly within the post, while one of two nesting areas in Otsego County is on post. All have been active between 1984 and 1989.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): A transient and summer resident in the area, the shrike has been recorded in Grand Traverse and Missaukee Counties. Its occurrence on the installation is possible, but unlikely.

Osprey, *Pandion haliaetus* (ST). A transient and summer resident, there are known nesting sites in Houghton Lake (Roscommon County). The osprey is also known in Grand Traverse and Kalkaska Counties, and may be found on the installation.

King rail, *Rallus elegans* (SE): An uncommon transient and summer resident, the rail may be found on the installation.

Fish

Cisco/Lake herring, *Coregonus artedii* (ST): This fish may be found in waters around the installation.

INVERTEBRATES

Deep water pond snail, *Stagnicola contracta* (ST): There is a recorded occurrence in Higgin's Lake in nearby Roscommon County. Although it may have a widespread occurrence, little is known about the species except that it is found in 9 to 12 meters of water.

Endangered Species Summary

The Kirtland's warbler and the bald eagle are the only known federally listed species on the installation. Peregrine falcons may occur as rare transients. State endangered birds that may be found on the installation include red-shouldered hawk, loggerhead shrike, and king rail. State threatened species include the common loon and osprey. The short-eared owl and merlin may be uncommon transients. Cisco may also be found in waters around the installation.

INDIANA AAP

AMC

7,300 Acres

Indiana

Main County: Clark

Surrounding Counties: Floyd, Jefferson, Scott, Washington

VERTEBRATES

Birds

American bittern, *Botaurus lentiginosus* (SE): A fairly common regular migrant, there is a historical record of this bird nesting in the state. Its occurrence on the installation in marshland areas is possible.

Great egret, *Casmerodius albus* (SE): A species that declined mainly because of overhunting, the egret is a rare spring migrant and uncommon fall migrant most often seen in its post-breeding wandering period, August to September. Its occurrence on the installation in marsh areas is possible.

Northern harrier, *Circus cyaneus* (SE): An uncommon migrant and rare permanent resident, this bird may be found on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FT, SE): A very rare to casual migrant and winter resident, the falcon was recorded in Jeffersonville Falls Ohio, in 1985 (about 8 km from the installation). Its occurrence as a migrant on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): A very rare to casual migrant, the occurrence of this subspecies on the installation is possible.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): Recorded in Clark County in November, 1981, the eagle may occur on the river along the installation. It is most commonly seen as a migrant.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): A rare migrant and very rare summer resident, historical breeding localities have been recorded in Jefferson County. The shrike's occurrence on the installation is possible.

Black-crowned night heron, *Nycticorax nycticorax* (SE): Historically recorded as nesting in Clark County, this bird is now considered a rare migrant and casual winter resident. It may be found in marsh areas of the installation.

Yellow-crowned night heron, *Nycticorax violaceus* (SE): A casual to rare migrant and summer resident, this bird may be found in marsh areas of the installation.

Osprey, *Pandion haliaetus* (SE): A rare to uncommon migrant throughout Indiana, the osprey may be seen on waters around the installation.

Interior least tern, *Sterna antillarum antholassos* (FE, SE): Found along the Ohio River, this species may be seen on the installation.

Common barn owl, *Tyto alba* (SE): A permanent resident in various areas of the state, the barn owl may be found on or near the installation in man-made structures such as barns or storage buildings.

Reptiles

Kirtland's snake, *Clonophis kirtlandii* (C2, ST): This snake is found within a 3-km radius of the installation. Historically, this species was also recorded in Clark, Floyd, and Washington Counties.

Mammals

Bobcat, *Felis rufus* (SE): The bobcat is found within a 3-km radius of the installation.

Gray bat, *Myotis grisescens* (FE, SE): A breeding colony was discovered in Clark County in 1982. Post-breeding wanderers may be found on wooded riparian areas of the installation.

Indiana bat, *Myotis sodalis* (FE, SE): Hibernating caves are located in Washington County, making occurrence of this species on the installation possible (most likely in the fall).

Evening bat, *Nycticeius humeralis* (SE): A hibernating cave located in Clark County makes the occurrence of this species on the installation possible. Records from Scott and Washington Counties support the claim.

Badger, *Taxidea taxus* (ST): Historically this species was collected in the state. It may be found on the installation.

Amphibians

Hellbender, *Cryptobranchus a. alleganiensis* (C2, SE): The hellbender is found in waters on the installation.

Fish

Blue sucker, *Cyclopterus elongatus* (C2): Historically found in the Ohio River, this fish may be found in waters around the installation.

INVERTEBRATES

Mollusks

Tubercled blossom, *Epioblasma torulosa torulosa* (FE, SE): Although this species is probably extinct, it was historically found in the Ohio River.

Long-solid, *Fusconaia subrotunda* (SE): This species was historically found in the Wabash River, and may possibly be found in waters around the installation.

Pink mucket, *Lampsilis abrupta (orbiculata) orbiculata* (FE, SE): This species was historically collected from the Ohio River and may be found in gravel shoals around the installation.

Orange-footed pearly mussel, *Plethobasus cooperianus* (FE, SE): This species was historically found throughout the Ohio River. This mussel may be extirpated from the area.

Rough pigtoe, *Pleurobema plenum* (FE, SE): This species was historically found throughout the Ohio River. This mussel may be extirpated from the area.

Rough rabbit's foot, *Quadrula cylindrica strigillata* (C2): This species was historically found in the Ohio River drainage, but may be extirpated from the area.

Endangered Species Summary

No federal species are known to occur on the installation, although the gray and Indiana bats may be seen foraging or migrating. Peregrine falcons and the bald eagle may be observed during migration. The eastern hellbender is known to occur on the installation. The bobcat and Kirtland's water snake are known to occur within a 3-km radius of the installation. Several state listed wading birds, as well as the northern harrier, common barn owl, osprey, and loggerhead shrike may be found within the area. Occurrence of the evening bat, badger, and blue sucker is also possible. The status of the several mollusk species listed is uncertain.

FORT INDIANTOWN GAP FORSCOM 18,353 Acres

Pennsylvania

Main Counties: Dauphin, Lebanon

Surrounding Counties: Berks, Lancaster, Schuylkill

VERTEBRATES

Birds

Grasshopper sparrow, *Ammodramus savannarum pratensis* (ST). This species has been reported in Dauphin and Lebanon Counties. The sparrow is found in grassy fields.

Upland sandpiper, *Bartramia longicauda* (ST): This species has been reported in Dauphin and Lebanon Counties. The sandpiper is usually found in fallow fields, pastures, or grassy areas.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): The falcon may be seen as a migrant throughout the state of Pennsylvania.

Reptiles

Bog turtle, *Clemmys muhlenbergi* (C2, SE): The bog turtle ranges within the area of the installation. Its occurrence in aquatic areas on the installation is likely.

Mammals

Indiana bat, *Myotis sodalis* (FE, SE): The bat is listed as possibly occurring in the main and surrounding counties of the installation. The bats have not been recorded in Pennsylvania in the winter months, but they may be seen migrating in the area.

INVERTEBRATES

Sugar maple longhorn beetle, *Dryobius sexnotatus* (C2, ST): This species has been recorded in Dauphin County. It may be dependent on climax eastern hardwood forest habitat.

Tawny crescent, *Phyciodes batesii* (C2, ST): Recorded in Dauphin County, this insect is usually found in dry open hillside fields. The blue wood aster, *Aster undulatus*, is the primary habitat for this species.

Invertebrate species: There is a highly sensitive invertebrate species which has been found on the installation (Contact the Pennsylvania Heritage Program director for more information).

Endangered Species Summary

No federal or state listed animal species are known to occur on the installation. The peregrine falcon and Indiana bat may be seen as migrants around the installation. Candidate insects that have been recorded in the area include the sugar maple longhorn beetle and the tawny crescent. Another sensitive invertebrate species has been found on the installation. The grasshopper sparrow and upland sandpiper have been recorded within the main counties of the installation. The bog turtle may be found in waters around the installation,

FORT JACKSON

TRADOC

52,596 Acres

South Carolina

Main Counties: Kershaw, Richland, Sumter

Surrounding Counties: Calhoun, Chester, Chesterfield, Clarendon, Fairfield, Lancaster, Lee, Lexington, Newberry

VERTEBRATES

Birds

Golden eagle, *Aquila chrysaetos* (SE): This eagle is a rare fall transient and winter visitor throughout the Carolinas. Its occurrence on the installation is possible.

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE, SE): Although this species was found throughout the southeast, its present distribution is unknown and it is thought to be extinct.

Kirtland's warbler, *Dendroica kirtlandii* (FE, SE): This warbler has been recorded as a fall migrant in Richland County, making its occurrence on the installation possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): An uncommon fall transient and rare winter resident on the coast, occurrence of this species on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FE, SE): An uncommon fall transient and rare winter resident on the coast, occurrence of this species on the installation is possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Known to occur in Chesterfield and Clarendon counties. Eagles may occur as transient on waters around the installation.

Wood stork, *Mycteria americana* (FE, SE): A locally common summer resident and uncommon winter resident of swamps, marshes and mudflats, storks feed in areas with receding water levels and high concentrations of fish.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): Colonies are present on the eastern end of the installation.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1): This bird is a rare breeding species and probably a rare transient within the area.

Bachman's warbler, *Vermivora bachmainii* (FE, SE): Present distribution of this species is unknown and records are rare, but historically this species was found throughout the southeast.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA): Richland and Kershaw Counties are on the edge of the alligator's range. The alligator inhabits swampy areas, and occurrence on the installation is possible.

Mammals

Red wolf, *Canis rufus gregoryi* (FE) Although this species is extirpated in South Carolina, the installation is within its historic range. Captive bred wolves have been released at Alligator River National Wildlife Refuge in North Carolina.

Eastern cougar, *Felis concolor cougari* (FE, SE): Possible occurrences in Chesterfield County. Although this species is probably extirpated in South Carolina, the installation is within its historic range. Wild populations may still exist, making the occurrence of this species possible.

Florida panther, *Felis concolor coryi* (FE): Although this species is probably extirpated in South Carolina, the installation is within its historic range. Wild populations may still exist, making the occurrence of this species possible.

Rafinesque's big-eared bat, *Plecotus rafinesquii* (C2): Found in dilapidated buildings near water or in hollow trees behind loose bark, this species ranges within the area of the installation.

Endangered Species Summary

Red-cockaded woodpeckers are the only federally listed species known to occur on the installation. The Kirtland's warbler, peregrine falcons, bald eagle, or wood stork may be seen as transients. Other species of concern with a reasonable likelihood of occurrence include the American alligator and Rafinesque's big-eared bat.

JEFFERSON PROVING GROUND AMC

55,264 Acres Indianz

Main Counties: Jefferson, Jennings, Ripley

Surrounding Counties: Bartholomew, Dearborn, Decatur, Franklin, Jackson

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (ST): An uncommon summer resident and migrant, locally common, this sparrow nested in Jefferson County in 1980. Its occurrence on the installation is possible.

American bittern, *Botaurus lentiginosus* (SE): A fairly common regular migrant, the bittern may be seen on marshland areas of the installation.

Great egret, *Casmerodius albus* (SE): A species that declined mainly because of overhunting, the egret is a rare spring migrant and uncommon fall migrant most often seen in its post-breeding wandering period, August to September. Recent nesting records (1984) are from Jennings County. Its occurrence on the installation in marsh areas is possible.

Northern harrier, *Circus cyaneus* (SE): An uncommon migrant and rare permanent resident, this bird may be found on the installation.

Peregrine falcon, *Falco peregrinus* (FE, SE): A very rare to casual migrant and winter resident, the falcon was seen in Clifty Falls State Park in 1978. Its occurrence on the installation is possible.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): The eagle may be seen wintering around open water areas of the installation.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): A rare migrant and very rare summer resident, its occurrence on the installation is possible. Historical breeding localities have been recorded in Jefferson County.

Yellow-crowned night heron, *Nycticorax violaceus* (SE): A casual to rare migrant and summer resident, this bird may be found in marsh areas of the installation.

King rail, *Rallus elegans* (SE): An uncommon migrant and summer resident, historical records indicate nesting in Ripley County. Its occurrence on the installation is possible.

Common barn owl, *Tyto alba* (SE): A permanent resident in various areas of the state, the barn owl may be found on or near the installation in man-made structures such as barns or storage buildings. Nested in Jefferson County in 1985.

Reptiles

Kirtland's snake, *Clonophis kirtlandii* (C2, ST): Historically recorded in Jennings and Jefferson Counties, this species is known to occur on the installation.

Mammals

Bobcat, *Felis rufus* (SE): Historically recorded in Jennings County, the occurrence of this species on the installation is possible.

Gray bat, *Myotis grisescens* (FE, SE): A rare post-breeding wanderer in Indiana, this species was recorded in Jennings County. Its occurrence on the installation is possible.

Indiana bat, *Myotis sodalis* (FE, SE): Generally seen in the fall, this bat has been recorded in Jennings and Ripley Counties. Its occurrence migrating or foraging in riparian areas of the installation is possible.

Evening bat, *Nycticeius humeralis* (SE): An uncommon summer resident, historically the bat was recorded in Ripley and Jackson Counties. Its occurrence on the installation is possible.

Fish

Eastern sand darter, *Ammocrypta pellucida* (C2): This species has been collected in Graham Fork, Jennings County. It may be found in waters around the installation.

Endangered Species Summary

No federally listed species are known to occur on the installation, although Indiana and gray bats may be seen foraging or migrating. The Kirtland's water snake is the only state listed species known to occur on the installation. Several species of state listed wetland birds may occur in riparian areas. The northern harrier, common barn owl, Henslow's sparrow, and loggerhead shrike may also occur on the grounds. Occurrence of the bobcat and evening bat is possible. The eastern sand darter may be found in waters around the installation.

JOLIET AAP

AMC

23,500 Acres Illinois

Main County: Will

Surrounding Counties: Cook, DuPage, Grundy, Kankakee, Kendall, Kane, IL; Lake, IN

VERTEBRATES

Birds

Cooper's hawk, *Accipiter cooperi* (SE): Recent nesting records are in Will County, and its occurrence on the installation is possible. An uncommon migrant and winter resident, the hawk is also found in Cook, DuPage, and Kane Counties.

Sharp-shinned hawk, *Accipiter striatus* (SE): A common migrant, uncommon winter resident and, very rare resident, this hawk was recorded in Will County in June, 1982. Its occurrence on the installation is possible.

Henslow's sparrow, *Ammodramus henslowii* (ST): This sparrow may be found on the installation. An occasional migrant and very local summer resident, the state's highest count of this bird for spring migration was made in Goose Lake in 1985 (Goose Lake is also a breeding area). There is a strong possibility that it breeds on this site.

Short-eared owl, *Asio flammeus* (SE): An uncommon migrant and winter resident, and rare summer resident, this owl has been recorded as nesting in Goose Lake Prairie, making its occurrence on the installation possible. The owl has also been recorded in Cook, DuPage, and Grundy Counties.

Upland sandpiper, *Bartramia longicauda* (SE): Seventy adults and one nest were recorded on the installation in 1990.

American bittern, *Botaurus lentiginosus* (SE): This species is an uncommon migrant and rare summer and winter resident in Will County. It is also listed as occurring in Cook, Grundy, and Kane Counties. Since breeding has been recorded in Goose Lake Prairie, and along large marshes of major rivers, its occurrence on the installation is probable.

Red-shouldered hawk, *Buteo lineatus* (SE): An uncommon migrant and summer resident, this hawk is listed as occurring in Will and Cook Counties. Its occurrence on the installation is possible.

Swainson's hawk, *Buteo swainsoni* (3C, SE): A rare migrant and local summer resident in northern Illinois, this hawk is listed as occurring in Cook and Kane Counties. Its occurrence on the installation is possible, most likely as a migrant.

Great egret, *Casmerodius albus* (SE): The highest counts for the state in 1985 were 148 in Will County. A common migrant and summer resident along major rivers of the state, occurrence on the installation is likely.

Veery, *Catharus fuscescens* (ST): A common spring migrant and an occasional summer resident in northern parts of central Illinois, the veery is listed as occurring in Will, Cook, and Kane Counties. Its occurrence on the installation is likely.

Brown creeper, *Certhia americana* (ST): This bird is listed as occurring in Will County. Recorded as nesting along the Kankakee River, its occurrence on the installation is possible.

Black tern, *Chlidonias niger* (SE): This species is a common migrant and common summer resident in northern Illinois and a rare summer resident in central Illinois. The tern is listed as occurring in Will, Cook, DuPage, Grundy, and Kane Counties. Its occurrence on the installation is possible.

Northern harrier, *Circus cyaneus* (SE): A nest was recorded on the installation in 1988. Adults were also observed in 1990.

Little blue heron, *Egretta caerulea* (SE): An uncommon migrant and a postbreeding wanderer throughout the state, this heron has been recorded in Will, Cook, and DuPage Counties. Its occurrence on the installation as a post-breeding wanderer is possible.

Snowy egret, *Egretta thula* (SE): A rare migrant, post-breeding wanderer, and local summer resident, this egret is listed as occurring in Will and Cook Counties. Its occurrence on the installation is most likely as a post-breeding wanderer.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): An uncommon migrant and rare winter resident, peregrines are being reintroduced to the state. Their occurrence on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): An uncommon migrant and rare winter resident, the occurrence of these peregrines on the installation is possible.

Common moorhen, *Gallinula chloropus* (ST): An uncommon migrant and locally uncommon summer resident in northern Illinois (decreasing southward), the occurrence of this species in marsh areas of the installation is possible. The moorhen occurs in Will, DuPage, Grundy, and Kane Counties.

Sandhill crane, *Grus canadensis* (SE): An uncommon migrant and very rare summer resident in northern Illinois, the cranes were recorded wintering in Will County in 1983. Their occurrence on the installation is possible.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): The eagle is known to winter along the Illinois and Kankakee Rivers in Will County, and is known to use areas on the installation.

Least bittern, *Ixobrychus exilis* (SE): An uncommon migrant and summer resident historical records indicate this species occurred in Will County. Occurrence on the installation is possible.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, ST): An occasional migrant and summer and winter resident, this bird nested on the installation in 1988, 1989, and 1990.

Black-crowned night heron, *Nycticorax nycticorax* (SE): High counts for the state for spring migration in Will County were 378 in 1984. The occurrence of the heron as a nesting species on the installation is likely. This bird is also found in Cook, DuPage, and Grundy Counties.

Osprey, *Pandion haliaetus* (SE): Recorded in Will and Cook Counties, the osprey may be seen as an uncommon migrant along river areas of the installation.

Double-crested cormorant, *Phalacrocorax auritus* (SE): An uncommon migrant along the Illinois River, this bird was recorded in Will and Cook Counties. Its occurrence on the installation is possible.

Pied-billed grebe, *Podilymbus podiceps* (SE): Reported in Will County in 1986, the grebe is a common migrant and uncommon summer and winter resident. Its occurrence on the installation is possible.

Least tern, *Sterna antillarum* (FE): A rare migrant and postbreeding wanderer in this area of the state, its rare occurrence on the installation is possible.

Forster's tern, *Sterna forsteri* (SE): A common migrant and occasional summer resident in northeastern Illinois, this tern was formerly observed on the installation.

Common tern, *Sterna hirundo* (SE): A common migrant and rare summer resident on Lake Michigan, this bird is a fairly common migrant elsewhere in the state. Its occurrence as a migrant on the installation is possible.

Bewick's wren, *Thryomanes bewickii bewickii* (ST): An occasional migrant and summer resident in southern Illinois (decreasing northward), this species has been recorded in Cook and Kane Counties. It may be found as a migrant on the installation.

Barn owl, *Tyto alba* (SE): An occasional permanent resident, this owl was found in a barn in Will County in 1987. Its occurrence roosting in man-made structures on the installation is possible.

Yellow-headed blackbird, *Xanthocephalus xanthocephalus* (SE): A locally uncommon migrant and summer resident, the blackbird was listed as occurring in Will, Cook, DuPage, and Kane Counties. Its occurrence on the installation is possible.

Reptiles

Spotted turtle, *Clemmys guttata* (SE): This turtle is listed as occurring in Will, Cook, DuPage Counties. Illinois is at the far western periphery of its range, and occurrence on the installation is possible.

Kirtland's snake, *Clonophis kirtlandii*: This snake is listed as occurring in Cook County. Its occurrence on the installation is possible.

Mammals

River otter, *Lutra canadensis* (ST): This species is listed as occurring in Kane County. Since its range includes the installation, it may occur in riparian areas of the base.

Bobcat, *Felis rufus* (ST): The installation is within the range of the bobcat, which is listed as occurring in Grundy County. Occurrence of this species is possible.

Indiana bat, *Myotis sodalis* (FE, SE): This bat is listed as occurring in Cook County. Statewide in distribution, the bat may be found in riparian areas with mature trees. It forages for insects by flying under tree canopies. Its occurrence on the installation in these areas is possible.

Fish

River redhorse, *Moxostoma carinatum* (ST): Common to the Kankakee River, this species may be found in waters around the installation.

Bigeye shiner, *Notropis boops* (ST): This fish is found in the Illinois River downstream from the installation.

Blacknose shiner, *Notropis heterolepis* (ST): Historically found in the Kankakee River in Will County, this fish may occur in waters around the installation.

INVERTEBRATES

Mollusks

Slippershell mussel, *Alasmidonta viridis* (SE): This mollusk was collected about 16 km upstream from the installation in 1985. Its occurrence in waters around the installation is possible.

Spectaclecase, *Cumberlandia monodonta* (C2, SE): This mollusk was historically collected in the Kankakee River less than 8 km from the installation. Its occurrence in waters on or around the installation is possible.

Elephant-ear, *Elliptio crassidens* (ST): This was collected in the Illinois River less than 24 km from the installation. Its occurrence in waters on or around the installation is possible.

Snuff box, *Epioblasma triquetra* (SE): Recorded in the Kankakee River, this species was collected in 1988 less than 8 km from the installation.

Cracking pearly mussel, *Hemistena lata* (FE, SE): This species was historically collected from the Illinois River, in waters around the installation.

Higgins eye, *Lampsilis higginsi* (SE): Historically collected less than 8 km from the installation on the Kankakee River, this species may be found in waters on or around the installation.

Creek heelsplitter, *Lasmigona compressa* (ST): This species was historically collected in areas less than 16 km upstream from the installation. Occurrence is possible.

Sheepnose, *Plethobasus cyphyus* (ST): This species was collected in the Kankakee River in 1988, less than 8 km from the installation.

Salamander mussel, *Simpsonia ambigua* (C2). This species was historically collected in the Kankakee River.

Rainbow, *Villosa iris* (SE): This species was collected in 1985 in the Kankakee River, less than 8 km from the installation.

Endangered Species Summary

The bald eagle is the only federally endangered species known to occur on the installation. Mature, wooded, riparian areas could harbor the Indiana bat. Peregrine falcons and the least tern may occur as migrants or transients. Several state listed species are known to occur, including the upland sandpiper, northern harrier, and migrant loggerhead shrike. Several state and federally listed mollusks may be found in the Illinois and Kankakee Rivers around the installation. Several other state listed species, including herons, egrets, river otters, and fish may occur in wetland areas of the installation.

FORT KNOX **TRADOC** **109,667 Acres** **Kentucky**

Main Counties: Meade, Hardin, Bullitt

Surrounding Counties: Breckinridge, Grayson, Hart, Jefferson, LaRue, Nelson, Spencer, KY; Harrison, IN

VERTEBRATES

Birds

Spotted sandpiper, *Actitis macularia* (SE): A common late spring and early fall transient, this bird was recorded as a migrant around Louisville and may also breed in the area.

Bachman's sparrow, *Aimophila aestivalis* (C2, ST): This bird is listed as occurring in Meade and Hardin Counties as a summer resident and breeding species. Its preferred habitat includes open pastures, thick grass with low trees, open grassy woodlands, and old fields.

Blue-winged teal, *Anas discors* (SE): A common transient in Kentucky in the late spring and early fall, this species was observed around Louisville. It may also breed in this area.

Upland sandpiper, *Bartramia longicauda* (SE): Historical records indicate this species was recorded during spring migrations in Louisville. In the fall it was recorded in Shepherdsville and near Elizabethtown. A rare to uncommon transient in Kentucky, it may possibly be seen on the installation around open grassland areas.

American bittern, *Botaurus lentiginosus* (SE): This species has been recorded in the spring and fall around Louisville. Considered a rare to uncommon transient. Bitterns are most frequently found in cattail marshes, but occasionally they are found in the thick vegetation along ponds, lakes, and streams.

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE): Although this bird is thought to be extinct, it was once found throughout the southeast U.S. Historical records for Tennessee and Kentucky are sketchy, but the installation is possibly within the bird's historic breeding range.

Great egret, *Casmerodius albus* (SE): An uncommon transient and nonbreeding visitor in Kentucky, records indicate this bird was a spring migrant in Louisville and Meade County.

Lark sparrow, *Chondestes grammacus* (SE): In Kentucky this bird is a rare to common summer resident. It was recorded as a spring migrant around Louisville, and possibly bred in Fayette and Bullitt Counties. Although generally considered a grassland bird, it will occupy rocky outcrops or areas with sparse ground cover mixed with rock.

Blackburnian warbler, *Dendroica fusca* (SE): A fairly common transient in Kentucky. This warbler has been observed around Louisville as a migrant.

Little blue heron, *Egretta caerulea* (SE). A post-breeding visitor that may be seen around the installation in late summer and into fall. There is a 1985 record for this species in Jefferson County.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): An extremely rare transient and winter visitor. It is possible this species could be seen on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FE, SE): An extremely rare transient and winter visitor. This species was recorded in Meade County. It is possible this species could be seen on the installation.

American coot, *Fulica americana* (SE): In Kentucky, the coot is a common transient, uncommon winter resident, and a very rare summer resident and nesting species. It is found in a wide variety of aquatic habitats, and was recorded as a migrant around Louisville.

Common moorhen, *Gallinula chloropus* (SE): A rare transient, the moorhen was recorded in the Louisville area as a migrant. Its occurrence on the installation in marshy areas is possible.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): Known in the main counties as well as Grayson County, the eagle has been observed occasionally on the installation, but only as a migrant. The birds recorded could be either the southern or northern subspecies (*leucocephalus* and *alascanus*).

Least bittern, *Ixobrychus exilis* (SE): A rare transient and rare summer resident, this species historically was recorded nesting in marshy areas around Louisville. Its occurrence on or around the installation is possible.

Hooded merganser, *Lophodytes cucullatus* (SE): In Kentucky this bird is a fairly common transient and rare winter resident. It is a rare summer resident in western Kentucky and breeds locally. In winter, it was commonly found from Louisville westward to Kentucky Lake. Occurrence of this species on or around the installation at the Ohio River is possible.

Black-crowned night heron, *Nycticorax nycticorax* (SE): This heron is an uncommon to fairly common summer resident. Breeding colonies historically were observed in the Louisville area. Herons also were observed wintering in the area. In 1985, this heron was recorded in Jefferson County. These birds are generally found near swamps. Their occurrence around the installation is possible.

Yellow-crowned night heron, *Nycticorax violaceus* (ST): An uncommon and local transient and summer resident. This species historically was recorded nesting around Louisville. Recently (1985), the heron was recorded nesting in Bullitt County. The herons are usually found in forested areas near swamps or sloughs, and may be seen on the installation.

Osprey, *Pandion haliaetus* (SE): A common transient and widespread migrant throughout Kentucky, ospreys are found near ponds, lakes, and streams. Their occurrence around the installation in the spring or fall is likely. Historical records indicate this bird nested in the Louisville area, although it has not nested in recent years.

Double-crested cormorant, *Phalacrocorax auritus* (SE): In Kentucky the cormorant is an uncommon to fairly common transient, rare winter resident, and rare nonbreeding summer visitor. Historical records show this species was seen on the Ohio River. Occurrence in riparian areas on or near the installation is possible.

Pied-billed grebe, *Podilymbus podiceps* (SE): A fairly common transient and rare to uncommon winter resident. Historically this species was seen in the Louisville area, where it nested and remained in the area until November. It may be seen in marshy areas on or near the installation at these times.

King rail, *Rallus elegans* (SE): Rare transient and summer resident, the rail is mainly found in marshy habitats. Historical records indicate this bird nested in the area around Louisville. There is a 1982 nesting record for the rail in Jefferson County.

Piping plover, *Charadrius melanotos* (FT): Recorded as nesting in Jefferson County in 1985, the plover is otherwise a rare transient in Kentucky. Its occurrence on the installation is possible.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2): The shrike may nest in the area. An uncommon to fairly common resident, the shrike is found in a variety of semi-open and open habitats.

Interior least tern, *Sterna antillarum athalassos* (FE, SE): This tern may be seen as a transient on the installation. The tern was recorded breeding at the Falls of Ohio in 1967.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1): Rare in spring and summer and very rare in fall and winter. The Bewick's wren may be found on the installation. This wren is found in a variety of habitats with brushy cover.

Reptiles

Kirtland's snake, *Clonophis kirtlandii* (SE): Known in Jefferson County, this snake can be found far from water. It usually hides under stones or debris in wet meadows.

Northern copperbelly water snake, *Nerodia erythrogaster neglecta* (C2): This species may be found in waters around the installation.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although the remaining red wolves are in captivity or within an experimental population, the installation is within their historic range.

Eastern cougar, *Felis concolor cougar* (FE, SE): The cougar once ranged throughout the southeast, including the area of the installation. Wild populations of the cougar may still exist, making its occurrence on the installation possible, although unlikely.

Gray bat, *Myotis grisescens* (FE, SE): The bat is known to occur in caves on the installation.

Indiana bat, *Myotis sodalis* (FE, SE): Found in caves on Fort Knox, the bat also is known to exist in Breckinridge, and Grayson Counties. Bats probably hibernate in these areas.

Pygmy shrew, *Microtus hoyi winnemana* (C2): This shrew was recorded in Bullitt County in 1984, and may be seen in the area of the installation. This particular species has been found in various habitats, including bogs, woods, grassy fields, and brushy areas on forest edges.

Southeastern bat, *Myotis austroriparius* (C2, SE): These bats forage just above the surface of quiet water. Habitats used for nursery colonies are unknown. Recorded in Hardin County in 1987, it is possible these bats may be seen foraging on the installation.

Eastern small-footed bat, *Myotis sublatus leibii*, (C2, SE): This bat inhabits old mines and buildings, is found under the bark of trees, and beneath slabs of rocks in quarries. It may be found in areas around the installation.

Eastern woodrat, *Neotoma floridana magister* (C2): Generally associated with rocky outcrops, the woodrat was recorded in Meade and Hardin Counties in 1984 and 1987. Its occurrence in areas around the installation is possible.

Evening bat, *Nycticeius humeralis* (ST): An uncommon summer resident, the evening bat prefers buildings or trees over caves for roost sites. It may be seen in areas around the installation.

Rafinesque's big-eared bat, *Plecotus rafinesquii* (C2, ST): This bat is usually found roosting in unoccupied buildings or other man-made structures. It is possible this bat may be seen in and around the installation.

Amphibians

Hellbender, *Cryptobranchus alleganiensis* (C2): Generally distributed statewide, this species was recorded in Meade County. Hellbenders are found in large streams and rivers where large stones provide nesting sites and protection. Their occurrence in waters around the installation is possible.

Fish

Northern cavefish, *Amblyopsis spelaea* (C2): Found in Meade and Hardin Counties, this species occurs in caves on Fort Knox.

Eastern sanddarter, *Ammocrypta pellucida* (C2): Listed in Hardin County, sporadic collections were taken from the Rolling Fork River. Occurrence of this species in installation waters is possible.

Blue sucker, *Cyclopterus elongatus* (C2): Listed in Meade County, a specimen was taken in the Ohio River below Lock and Dam 43. This sucker occurs in the waters around the installation.

INVERTEBRATES

Mollusks

Orange-footed pearly mussel, *Plethobasus cooperianus* (FE, SE): Listed as occurring in Bullitt County, this species was historically found throughout the Ohio River. This mussel may be extirpated from the area.

Rough pigtoe, *Pleurobema plenum* (FE, SE): Possibly occurring in Hart County, this species was historically found throughout the Ohio River. This mussel may be extirpated from the area.

Rough rabbit's foot pearly mussel, *Quadrula cylindrica strigillata* (C2, SE): Listed as occurring in Hardin County, this species historically was found in the Ohio River drainage. This mussel may be extirpated from the area.

Salamander mussel, *Simpsonaias ambiguia* (C2, ST): This species is listed as occurring in Bullitt County.

Ortmann's pearly mussel, *Villosa (Micromya) ortmanni* (C2, SE): This species is listed as occurring in Hardin County.

Eastern fanshell, *Cyprogenia stegaria* (ST): Historically collected in the Ohio River drainage, this species may still persist in waters around the installation.

Cracking pearly mussel, *Hemistena lata* (FE, SE): This species was historically collected in the Ohio River.

Pink mucket pearly mussel, *Lampsilis abrupta* (FE, SE): This mussel was historically collected in the Ohio River.

Ring pink, *Obovaria retusa* (FE, SE): This species was historically found throughout the Ohio River.

Fat pocketbook pearly mussel, *Potamilus capax* (FE, SE): This species was historically collected in the Ohio River and may be found in waters around the installation.

Purple lilliput mussel, *Toxoplasma lividus* (C2, SE): This species was historically collected in the Ohio River drainage.

Bean villosa, *Villosa fabalis* (C2, SE): This mussel was historically collected in the Ohio River drainage.

Other

Louisville crayfish, *Orconectes jeffersoni* (C2, SE): This species is listed as occurring in Bullitt and Jefferson Counties.

Onyx rocksail, *Leptoxis praerosa* (C2): Historically collected in the Ohio River drainage, this species may still persist in the waters around the installation.

Endangered Species Summary

The Indiana and gray bats are the only species known to occur in caves on the installation. The bald eagle is also known as an annual visitor. Candidate species known to be present include the northern cavefish and blue sucker. State listed bird species that may breed in the area include the spotted sand piper, Bachman's sparrow, blue-winged teal, lark sparrow, least bittern, black-crowned night heron, yellow-crowned night heron, and king rail. The others listed above may be observed as migrants or transients. Other candidate and state listed species that should be looked for include the loggerhead shrike, Berwick's wren, two snake species, several bats, eastern wood rat, hellbender, eastern sand darter, Louisville crayfish, and onyx snail. Surveys are needed to document the status of state and federally listed mussels.

FORT LEE

TRADOC

6,504 Acres

Virginia

Main County: Prince George

Surrounding Counties: Charles City, Chesterfield, Dinwiddie, Surry, Sussex

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (RSE): Found in low wetlands covered with brushes and sedges and sometimes in clearings, it historically bred in eastern Virginia.

Northern harrier, *Circus cyaneus* (RSE): Historically recorded as an uncommon migrant, this species may be seen as a transient on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): A migrant along the coast, the falcon may be seen as a transient on the installation.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): There is a nesting record for this species on Fort Lee.

Loggerhead shrike, *Lanius ludovicianus ludovicianus* (SE): Recorded nesting in Chesterfield County, the shrike may be seen on the installation.

Yellow-crowned night heron, *Nycticorax violaceus* (RST): An uncommon summer resident of the coastal plain, and rare in winter, this species may be seen on the installation.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Considered the rarest warbler in North America, this bird historically was reported in Virginia. It may have occurred only as a migrant.

Fish

Blackbanded sunfish, *Enneacanthus chaetodon* (SE): Reported from waters on Fort Lee. It occurs in the Blackwater Swamp (a tributary to the Blackwater River).

Endangered Species Summary

The bald eagle has been recorded as nesting on the installation, and the state listed blackbanded sunfish has been recorded in waters on Fort Lee. Other federally listed species which may be seen as transients include the peregrine falcon and Bachman's warbler. The state listed loggerhead shrike may nest in the area. Other birds which may occur as transients include the Henslow's sparrow and the northern harrier.

LETTERKENNY AD

AMC

19,000 Acres

Pennsylvania

Main County: Franklin

Surrounding Counties: Adams, Cumberland, Fulton, Huntington, Juniata, Perry, PA; Washington, MD

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (ST). This species is known to occur on the installation. It is generally found in open fields and meadows with grass interspersed with weeds or shrubby vegetation, especially in low-lying areas.

Grasshopper sparrow, *Ammodramus savannarum* (ST): The sparrow is known to occur in large grassy areas of the installation.

Upland sandpiper, *Bartramia longicauda* (ST): This species has been historically reported in Franklin County. The sandpiper is usually found in fallow fields, pastures, or grassy areas.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): The falcon may be seen as a migrant throughout Pennsylvania.

Bewick's wren, *Thryomanes bewickii altus* (C1, ST): Historically, the wren nested in Franklin County, although it has not been recorded there in recent years.

Reptiles

Bog turtle, *Clemmys muhlenbergi* (C2, SE): The turtle is prevalent in the Susquehanna drainages where it ranges through Franklin, Adams, and Cumberland Counties. It is likely to be found on or around the installation.

Red-bellied turtle, *Pseudemys rubriventris* (SE): This species was found on the west branch of Conococheague Creek, in Franklin County, about 8 km from the installation. The turtle may be found in other drainages around the installation.

Mammals

Eastern small-footed bat, *Myotis subulatus leibii* (C2, SE): Historically recorded in Franklin County, the bat inhabits caves or mines. It may be seen migrating or as a transient on the installation.

Indiana bat, *Myotis sodalis* (FE): Historically, this bat was recorded in Franklin County. The bats have not been recorded in Pennsylvania in the winter. They may be seen migrating in the area. The bat is listed as possibly occurring in surrounding counties of the installation as well.

INVERTEBRATES

Buckmoth, *Hemileuca maia* (ST): This species was collected in Fayetteville, Franklin County. This is about 16 km southeast of the installation. The moth is found in open scrub oak barrens, almost always on sandy soil.

Endangered Species Summary

No federal species are known on the installation. The eastern small-footed and Indiana bats may occur in the area. The peregrine falcon could be a rare migrant. The Henslow's and grasshopper sparrows are state threatened species known to occur on the installation. The upland sandpiper, and Bewick's wren may be seen in the area. The bog and red-bellied turtles have been recorded in drainages around the installation. The buckmoth is an insect that may be found in the area.

LEXINGTON/BLUEGRASS

AMC

14,000 Acres

Kentucky

Main Counties: Fayette and Bourbon (*LEXINGTON ACTIVITY*)

Surrounding Counties: Bath, Clark, Harrison, Nicholas, Jessamine, Madison, Montgomery, Scott, Woodford

Main Counties: Madison (*BLUEGRASS ACTIVITY*)

Surrounding Counties: Clark, Estill, Fayette, Garrard, Jackson, Jessamine, Powell, Rockcastle

VERTEBRATES

Birds

Bachman's sparrow, *Aimophila aestivalis* (C2, ST): Listed in Madison County, this sparrow is a rare summer resident. Its preferred habitat includes open pastures, thick grass with low trees, open grassy woodlands, and old fields.

Upland sandpiper, *Bartramia longicauda* (SE): Historical records indicate this species was recorded during spring migrations in Woodford County, and fall migrations around Lexington and other areas in Fayette County. A rare to uncommon transient in Kentucky, it may be seen on the installation around open grassland areas.

American bittern, *Botaurus lentiginosus* (SE): Historical records indicate this species was found in Bourbon County and other areas around Lexington. Considered a rare to uncommon transient, the bitterns are often encountered in cattail marshes.

Lark sparrow, *Chondestes grammacus* (SE): In Kentucky this bird is a rare spring transient and summer resident. It was recorded as nesting in Madison and Fayette Counties (Harrison City, 1985). Although generally considered a grassland bird, it will occupy rocky outcrops or areas with sparse ground cover mixed with rock.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): An extremely rare transient and winter visitor. It is possible this species could be seen on the installation. Historically this bird was recorded in Powell County in areas where nesting was possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FE, SE): An extremely rare transient and winter visitor. It is possible this species could be seen on the installation.

American coot, *Fulica americana* (SE): In Kentucky, the coot is a fairly common spring and fall migrant, an uncommon winter resident and a very rare summer resident/nesting species. Breeding has been documented in Fayette county.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): This species is known in Woodford County. Wintering eagles are probably the northern subspecies.

Black-crowned night heron, *Nycticorax nycticorax* (SE): A rare to uncommon transient and local summer resident. These birds are generally found near swamps.

Yellow-crowned night heron, *Nycticorax violacea* (ST): An uncommon transient and summer resident. Historical records indicate this bird nested in Fayette county. The herons are usually found in forested areas near swamps or sloughs, and may be seen on the installation.

Osprey, *Pandion haliaetus* (SE): A common transient throughout the state of Kentucky, the ospreys are found near ponds, lakes, and streams. Their occurrence around the installation in the spring or fall is possible.

Pied-billed grebe, *Podilymbus podiceps* (SE): This grebe is a fairly common to common transient, a rare winter and summer resident. It was recorded as a spring migrant in Lexington. It may be seen in marshy areas on or near the installation at these times.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1): A rare summer resident throughout Kentucky, it usually nests in farmlands, small towns and clearings. Occurrence on the installation is possible.

Loggerhead shrike, *Lanius ludovicianus migrans* (C2): An uncommon to fairly common resident, the shrike may be found in areas on or around the installation. This bird is found in a variety of semi-open and open habitats.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although only 40 individuals of this species remain in captivity, the installation is within its historic range, which included the entire southeast.

Eastern cougar, *Felis concolor coryi* (FE, SE): Although this species is very rare, if not extinct, its historical range is within the area of the installation. Wild populations still may exist, making occurrence on the installation possible, although unlikely.

Gray bat, *Myotis grisescens* (FE, SE): This bat is mainly a cave-dweller and is known to have nursery colonies in Garrard and Jessamine Counties. It also is known to occur in Jackson County. Occurrence on the installation during nocturnal foraging is likely.

Indiana bat, *Myotis sodalis* (FE, SE): Known in Estill, Jackson, Rockcastle, and Powell Counties, this species could occur in all main and surrounding counties, where they overwinter in caves. The bats may be seen during migration or foraging in riparian areas around the installation.

Eastern woodrat, *Neotoma floridana magister* (C2): Between 1982 and 1988 this species was recorded in Estill, Jackson, Jessamine, Madison, Montgomery, Powell, and Rockcastle Counties. The status of these populations has not been evaluated. The woodrats generally inhabit areas with rocky outcrops. The species may inhabit areas near the installation.

Evening bat, *Nycticeius humeralis* (SE): Uncommon summer resident ranging in the western and southern part of Kentucky, the evening bat is usually found in buildings and tree cavities. Occurrence on the installation is possible.

Big-eared Virginia bat, *Plecotus townsendii virginianus* (FE, SE): This bat is found in Jackson and Rockcastle Counties, and was recorded hibernating in a small cave in Powell County. The same cave is probably used during the summer and winter. Occurrence in transit or foraging on the installation is possible. The species is highly intolerant of human disturbance.

Pygmy shrew, *Microsorex hoyi winnemana* (C2): This shrew has been collected within the area in the past. It has been found in various habitats, including bogs, woods, grassy fields, and brushy areas on forest edges.

Eastern small footed bat, *Myotis sublatus leibii* (C2, SE): This species may be found foraging or migrating on or around the installation. The bat may be found in old mines and buildings as well as caves.

Rafinesque's big-eared bat, *Plecotus rafinesqui* (C2, ST): This bat may be seen foraging or migrating in the area. It has been recorded for the past 10 years in Estill, Jackson, Powell, and Rockcastle Counties.

Fish

Eastern sand darter, *Ammocrypta pellucida* (C2): Listed in Madison County, this species is historically known from the Kentucky River around the middle fork. Its occurrence in waters around the installation is possible.

Amphibians

Hellbender, *Cryptobranchus alleganiensis* (C2): The hellbender may be found in drainages around the installation.

Endangered Species Summary

The bald eagle and Indiana and gray bats are the only federally endangered species likely to be seen on either complex. The big-eared Virginia bat may also occur. Several candidate or state listed species may breed or reside in the area, including Bachman's sparrow, alrk sparrow, two night herons, Bewick's wren, eastern wood rat, pygmy shrew, eastern sand darter, and hellbender. The evening, eastern small footed, and Rafinesque's big-eared bats may forage on or migrate through the area.

FORT McCLELLAN

TRADOC

46,110 Acres

Alabama

Main County: Calhoun

Surrounding Counties: Cherokee, Clay, Cleburne, Etowah, St. Clair, Talladega

VERTEBRATES

Birds

American peregrine falcon, *Falco peregrinus anatum* (FT, ST): This falcon is a transient species in Alabama and migrates mainly along the Gulf Coast. Occurrence on the installation is unlikely but possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, ST): This bird is a transient species in Alabama and migrates mainly along the Gulf Coast. Occurrence on the installation is unlikely but possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): There is a known occurrence of this species in adjacent Cherokee County. Because the birds may range widely to forage, an occurrence on or near the installation is possible.

Red-cockaded woodpecker, *Picus borealis* (FE, SE): This species occurs within Calhoun County and could occur within the installation if suitable pine stands were available. The woodpeckers have occurred on the installation in the past.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1, ST): This bird is uncommon as a summer resident in Alabama. In winter it is uncommon to fairly common. Occurrence on the installation is possible year round, but most likely in the winter.

Bachman's warbler, *Vermivora bachmani* (FE, SE): This species was once a rare spring transient in central to northern Alabama. The bird has not been seen in the mountain region (north-central) of Alabama since the late 1950s and is thought to be extinct.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Alabama, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE, SE): Although this species is probably extirpated in Alabama, the installation is within its historic range. Wild populations still exist, making the occurrence of this species possible.

Gray bat, *Myotis grisescens* (FE, SE): The installation is within the range of this species and occurrence as a transient is possible. Important caves for hibernating bats occur within 100 km of the Anniston Army Depot adjacent to Fort McClellan.

Indiana bat, *Myotis sodalis* (FE, SE): Occurrence of this species is possible in Calhoun and the six surrounding counties. Maternity colonies could occur around dead trees within riparian areas. Important caves for hibernating bats occur within 100 km of the Anniston Army Depot adjacent to Fort McClellan.

Fish

Pygmy sculpin, *Cottus pygmaeus* (FT, ST): This species is only known within nearby Coldwater Spring, which is outside the city of Anniston and within 3 km of the installation.

Coldwater darter, *Etheostoma boschungi* (C2): This fish is known to occur in Coldwater Spring (less than 8 km from the installation) and other areas of the upper Coosa River System.

Blue shiner, *Notropis caeruleus* (C2): Populations occur in Shoal and Chocolocco Creeks in Calhoun County. Stretches of these creeks are less than 8 km from the installation.

INVERTEBRATES

Mollusks

Upland combshell, *Epioblasma metastriata* (C2): This species was recorded from Chocolocco Creek, 11 km southwest of Eastaboga, Alabama and in the Coosa River 5 km southeast of Ragland, Alabama. Although these areas are less than 16 km from the installation, no specimens were found in a 1971-1973 study of the Coosa River Drainage.

Fine-lined pocketbook, *Lampsilis altilis* (C2): This species was found in the early 1970s in Chocolocco Creek, 3 km south of White Plains (Calhoun County), Alabama. This area is less than 1.6 km from the installation.

Tennessee heelsplitter, *Lasmigona holstonia* (C2): This species was found in the early 1970s in Shoal Creek, 5 km southeast of White Plains (Calhoun County), Alabama. This is less than 1.6 km from the installation.

Judge Tait's mussel, *Pleurobema taitianum* (FE): Historical records indicate this species occurred within the Coosa River drainage. Modification and pollution of the river has made its occurrence in this area unlikely.

Purple lilliput, *Toxoplasma lividus* (C2): Historical records indicate that this mussel was found in Chocolocco Creek, 3 km south of White Plains (Calhoun County), Alabama. This area is less than 1.6 km from the installation.

Alabama livebearing snail, *Tulotoma magnifica* (C2): Historical records show this species was collected along the Coosa River drainage. It still may occur on Chocolocco Creek. It has been listed as occurring in St. Clair and Talladega Counties.

Sculpin snail, *Stiobia nana* (C2): This species is found in Coldwater Spring in Calhoun County.

Endangered Species Summary

The recently listed pygmy sculpin and the red-cockaded woodpecker are the species most likely to be found within the area. Sightings of Indiana and gray bats are also possible. No state or federally listed

threatened or endangered species are known to occur presently. The red-cockaded woodpecker could occur if suitable pine stands were present. The pygmy sculpin and Indiana bat should also be looked for. Federally endangered bald eagles and gray bats may occur as transients. The state listed Berwick's wren could be present, especially in the winter. Several candidate fish and mollusk species may be present.

FORT McCOY FORSCOM 60,916 Acres Wisconsin

Main County: Monroe

Edge County: Jackson

Surrounding Counties: Juneau, LaCrosse, Vernon

VERTEBRATES

Birds

Red-shouldered hawk, *Buteo lineatus* (ST): This species is a summer resident within 15 km of the installation.

Great egret, *Casmerodius albus* (ST): The egret is a visitor and a summer resident in areas adjacent to the installation, making its occurrence on Fort McCoy possible.

Piping plover, *Charadrius melanotos* (FE, SE): The plover has been recorded in LaCrosse and Vernon Counties from July to August. Its occurrence as a migrant on the installation is possible.

Cerulean warbler, *Dendroica cerulea* (ST): Found in areas less than 25 km to the southwest, this species may occur on the installation.

Yellow-throated warbler, *Dendroica dominica* (SE): This bird may occur as a migrant on the installation.

Kirtland's warbler, *Dendroica kirtlandii* (FE): Jack-pine stands, which are potential breeding habitat, exist for this bird on the installation. However, populations are unknown in the area.

Acadian flycatcher, *Empidonax virescens* (ST): The flycatcher has been recorded as a migrant on and around the installation.

American Peregrine falcon, *Falco peregrinus anatum* (FE, SE): Falcons are known as visitors and migrants on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): These falcons may be seen as migrants on or around the installation.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FT, SE): Eagles are known migrants and visitors on the installation.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): This species is a summer resident within a 16-km radius of Fort McCoy.

Kentucky warbler, *Oporornis formosus* (ST). This species has been recorded as a migrant on and around the installation.

Osprey, *Pandion haliaetus* (SE): This bird is known to breed on the installation.

Red-necked grebe, *Podiceps grisegena* (SE): This bird may occur as a migrant on the installation.

Caspian tern, *Sterna caspia* (SE): This species has been recorded as a migrant on the installation.

Forster's tern, *Sterna forsteri* (SE): This species is known to occur on the installation as a migrant and a visitor.

Bell's vireo, *Vireo bellii* (ST): This species may occur on the installation as a transient.

Reptiles

Wood turtle, *Clemmys insculpta* (ST): This turtle is known to occur on the installation. Generally it is found in forested areas along fast moving streams.

Blanding's turtle, *Emydoidea blandingi* (ST): Known to occur on the installation. The turtle forages on both land and in shallow water, and seems to prefer open grasswater marshes.

Western slender glass lizard, *Ophisaurus attenuatus* (SE): This lizard is known to occur on the installation. It is generally found in oak savannas and prairies.

Eastern massasauga, *Sistrurus catenatus* (C2, SE): Recorded in areas less than 16 km north to northeast of the installation, the massasauga inhabits lowland areas along rivers, and adjacent open fields. Occurrence of this snake on the installation is possible.

Amphibians

Blanchard's cricket frog, *Acris crepitans* (SE): This frog, which inhabits marshes along rivers and river floodplains, is known to occur on the installation.

Fish

River redhorse, *Moxostoma carinatum* (ST): Activities on the installation may affect this fish, which has been recorded in the Black River within a 16-km radius of Fort McCoy.

Redfin shiner, *Notropis umbratilis* (ST): Locally rare to common, historically, the shiner was found in waters 5 km west of the installation.

Gilt darter, *Percina evides* (ST): Activities on the installation may affect this fish, which has been recorded in the Black River within 25 km of the installation.

INVERTEBRATES

Karner blue butterfly, *Lycaeides melissa samueli* (C2): Known to occur on the installation, and generally found in undisturbed prairie areas.

Giant carrion beetle, *Nicrophorus americanus* (FE, SE): Historically, this species was recorded in areas less than 16 km northwest of the installation.

Elusive clubtail, *Stylurus notatus* (C2): This species was recorded about 16 km northwest of the installation.

Endangered Species Summary

The bald eagle and the peregrine falcon are known migrants and visitors on the installation. Potential breeding habitat exists for the Kirtland's warbler. The osprey is known to breed on the installation. Other known state listed species include the Karner Blue butterfly, Blanchard's cricket frog, the western slender glass lizard, Blanding's turtle, and the wood turtle. The Caspian tern, Forster's tern, Kentucky warbler, and the Acadian flycatcher are known state listed migrants on the installation.

MILAN AAP

AMC

22,541 Acres

Tennessee

Main Counties: Gibson, Carroll

Surrounding Counties: Benton, Crockett, Dyer, Henderson, Henry, Madison, Obion, Weakley

VERTEBRATES

Birds

Cooper's hawk, *Accipiter cooperii* (ST): Although it is rare, this hawk is considered a permanent resident throughout Tennessee and may be found anywhere in the state. It has been recorded in Gibson County from April through August and is most likely to be seen on the installation from September through November when additional migrants from the north are present.

Sharp-shinned hawk, *Accipiter striatus* (ST): An uncommon to rare permanent resident which may be found in any Tennessee County, this hawk has been recorded at various times of the year in Gibson and Carroll Counties. It may be found within the installation.

Bachman's sparrow, *Aimophila aestivalis** (C2, SE): This species usually inhabits open pastures with thick grasses, and few low trees. Open oak and pine woodlands may also be used.

Grasshopper sparrow, *Ammodromus savannarum* (ST): This species is listed as occurring in Gibson County. Formerly a fairly common to common summer resident and transient throughout Tennessee, it was found in Gibson County from May through September and is now an uncommon to rare winter visitor.

Great blue heron, *Ardea herodias** (ESD: ST, S3): An uncommon to rare permanent resident, the great blue has been recorded in Gibson County from September through February. These birds require freshwater marsh areas for breeding and feeding.

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE/ESD: SP): Although this bird is thought to be extinct, it was once found throughout the southeast. Historical records for Tennessee are sketchy, but the installation is probably within its historic breeding range.

Northern harrier, *Circus cyaneus hudsonius* (ST): Throughout the state, this bird is an uncommon to rare transient in spring and fall and an uncommon to rare winter visitor. It was recorded from August to May in Gibson and Carroll Counties, its occurrence on the installation is possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This species was a rare to uncommon local resident, and breeding bird at Reelfoot Lake. Presently, it is an uncommon to rare transient in spring and fall and a very rare wintering bird. Its occurrence on the installation is possible.

*The Ecological Services Division (ESD) of the Tennessee Department of Conservation maintains a separate listing of threatened and endangered species that may differ from the state list maintained by the Tennessee Wildlife Resources Agency.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FE, SE): This subspecies migrates through the area and may be seen on the installation.

Bald eagle, *Haliaeetus leucocephalus* (FE, SE): Eagles are known to occur in Benton, Dyer, Henry, and Obion Counties. Because the birds may range widely to forage, an occurrence on or near the installation is possible. Some of the wintering birds may be of the northern subspecies *alascanus*. None have nested in Tennessee since 1958.

Least bittern, *Ixobrychus exilis* (ESD: ST): An uncommon to rare transient across the state during April and May and again in September and October, bitterns inhabit freshwater marshes and pond edges. These birds have been recorded in Stewart and Montgomery Counties from April through mid-October.

Black-crowned night heron, *Nycticorax nycticorax* (ST/ESD: ST): An uncommon to rare permanent resident throughout Tennessee, this night heron was recorded in Carroll County from March to August. These birds will nest in pine stands and are usually found in marshes, swamps, creeks, and wooded streams.

Yellow-crowned night heron, *Nycticorax violaceus* (ESD: ST): Usually found in forested areas near swamps or sloughs, this heron has been recorded in Carroll County from March to August. This species has also been recorded as nesting in the county. Occurrence on the installation is possible.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE/ESD: SE): The historical range of this woodpecker included the installation. It requires mature pine stands.

King rail, *Rallus elegans* (ESD: SE, S2): An uncommon to rare transient and an uncommon to rare summer resident, the rail is mainly found in marshy habitats. This bird has also been recorded in Carroll County from April through July.

Virginia rail, *Rallus limicola* (ESD: SE): An uncommon to rare transient and a rare winter visitor across Tennessee, the rail is also a rare and local summer resident. It has been recorded in Carroll County from August through July. The birds breed in freshwater marshes and marshy fields but are sometimes found in drier brushy fields during migration.

Interior least tern, *Sterna antillarum antillarum* (FE, SE/ESD: SE): This species is known to occur in Dyer county. Although this species is an uncommon to rare transient in areas away from the Mississippi River, its occurrence on the installation is possible.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1, ST): A permanent resident across the state, this bird was recorded from March through August in Gibson and Carroll Counties. The birds are usually found in thickets, brush piles, fence and hedgerows and other areas with second growth.

Bachman's warbler, *Vermivora bachmani* (FE, ESD: SP): Considered the rarest warbler in North America, this bird's historical range was recorded throughout the southeast. Confirmed breeding sites were in Kentucky and South Carolina. Historically, this bird was probably at least a migrant through the area where the installation is located.

Reptiles

Copperbelly water snake, *Nerodia erythrogaster neglecta* (C2): Listed as occurring in Carroll County, Tennessee. The Tennessee Heritage Program says it is not in the county.

Alligator snapping turtle, *Macroclemys temmincki* (C2): Found in Tennessee west of Kentucky Lake, this turtle inhabits rivers, sloughs, and occasionally marshes or swamps. It usually prefers larger, deeper streams. Its occurrence on the installation in the Rutherford Fork is possible.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although the wolf is extirpated in Tennessee, the installation is within its historic range.

Eastern cougar, *Felis concolor cougari* (FE, SE/ESD: SE): This species is very rare, however, the installation is within its historic range. Wild populations of the cougar are thought to persist, making the occurrence on the installation possible, although unlikely.

River otter, *Lutra canadensis* (ST/ESD: ST): Listed as occurring in Gibson County, the river otter is usually found in streams, rivers, and lakes usually bordered by woods. The occurrence of the otter on the installation is possible, although unlikely.

Gray bat, *Myotis grisescens* (FE, SE/ESD: SE): The bats may be seen foraging while migrating through riparian areas of the installation.

Indiana bat, *Myotis sodalis* (FE, SE/ESD: SE): The Indiana bat possibly occurs in both the main and surrounding counties. This species would most likely be seen foraging around riparian areas.

Southeastern big-eared bat, *Plecotus rafinesquii* (C2): Associated with forested regions, unoccupied buildings, and other man-made structures, this bat has been recorded in Gibson County. Its occurrence on the installation is possible.

Endangered Species Summary

No federally listed species are known to occur on the installation, but several may be found as transients. These include the bald eagle, peregrine falcon, interior least tern, and Indiana bat. State listed species that may be found include the Cooper's and sharp-shinned hawks, northern harrier, rails, bitterns, herons, night herons, grasshopper sparrows, and the Bewick's wren. The alligator snapping turtle and the river otter are also of concern.

MISSISSIPPI AAP AMC

6,000 Acres

Mississippi

Main County: Hancock

Edge Counties: Pearl River, MS; St. Tammany Parish, LA (buffer zone extends into this county);

Surrounding Counties: Harrison, Stone

VERTEBRATES

Birds

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE, SE): Although this subspecies of the ivory-billed is probably extinct, its historical range includes the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): These birds migrate along the Atlantic and Gulf coasts, and may occur on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): These birds migrate along the Atlantic and Gulf coasts. Their occurrence on the installation is possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): A bald eagle nest has recently been discovered within the Bay St. Louis area. The eagle's historical range is within the area of the installation. Eagles may travel far from their nesting area to forage, especially in riparian areas. Their occurrence on or around the installation is possible.

Brown pelican, *Pelecanus occidentalis carolinensis* (FE, SE): Brown pelicans range within the area of the installation. Their occurrence as transients is possible.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): The range of the woodpecker is within the area of the installation, and requires mature pine forests (greater than 60 or 70 years old) for nesting. If such conditions exist, the birds could be found on the installation.

Bachman's warbler, *Vermivora bachmainii* (FE, SE): Historically this warbler was recorded as a transient through the area. The Bachman's warbler has not been seen in the southeast in recent years.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA, SE): Alligators are commonly found in large drainage systems on the NASA test site to the south of the installation. Historically, their range included the southern portion of Mississippi, and they could occur on the installation.

Eastern indigo snake, *Drymarchon corais couperi* (FT, SE): Historically, this snake ranged within the area of the installation; an unconfirmed sighting was made on the installation in 1974. Otherwise, the occurrence of this species in Mississippi is unknown.

Rainbow snake, *Farancia erytrogramma* (SE): Found in slough and stream habitats, this species is uncommon in the region. Its occurrence on the installation is possible.

Gopher tortoise, *Gopherus polyphemus* (FT, SE): The tortoises reach their farthest western range in Hancock County. Occurrence on the installation is possible.

Ringed sawback turtle, *Graptemys oculifera* (FT, SE): Found in the Pearl River and its larger tributaries, the occurrence of this species on or around the installation is possible.

Black pine snake, *Pituophis melanoleucus lodingi* (C2, SE): Associated with longleaf pine stands, this species was recorded at Poplarville in Pearl River County. Its occurrence on the installation is possible.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species has been extirpated from Mississippi, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE, SE): This species historically occurred within the area, although it is now very rare. Wild populations still exist, making the occurrence on the installation possible.

Louisiana black bear, *Ursus americanus luteolus* (C1): The bear is found within the area and may be seen on the installation.

Fish

Gulf sturgeon, *Acipenser oxythynchus desotoi* (C2): This species was collected from the Pearl and Mikes Rivers. Its occurrence within waters of the installation is likely.

Atlantic sturgeon, *Acipenser oxythynchus* (SE): This species was collected from the Pearl and Mikes Rivers. Its occurrence within waters of the installation is likely.

Frecklebellied madtom, *Noturus munitus* (C2, SE): Generally found upstream from tidal intrusions, this fish has been collected from the Jourdan River and Catahoula Creek. These areas are less than 8 km from the installation.

Amphibians

Dusky gopher frog, *Rana areolata sevosa* (C2): Historically collected in the Biloxi area, this species has been difficult to locate even at known breeding sites. Its occurrence on the installation is possible.

Endangered Species Summary

Although no federally listed species are known on the installation, bald eagles and red-cockaded woodpeckers may occur as transients. The eastern indigo snake, gopher tortoise, and ringed sawback turtle may also be found. Rare transient birds include the peregrine falcon and brown pelican. Waters around the installation may support the Atlantic sturgeon and frecklebellied madtom, which are state listed species. Other species of concern include the black pine snake, dusky gopher frog, and the American alligator.

NEWPORT AAP

AMC

7,000 Acres

Indiana

Main County: Vermillion

Surrounding Counties: Parke, Vigo, Warren, IN; Edgar, Vermilion, IL

VERTEBRATES

Birds

American bittern, *Botaurus lentiginosus* (SE): A fairly common regular migrant, the bittern may occur in marshland areas of the installation.

Great egret, *Casmerodius albus* (SE): A species that declined mainly because of overhunting, the egret is a rare spring migrant and uncommon fall migrant most often seen in its post-breeding wandering period, August to September. Its occurrence on the installation in marsh areas is possible.

Northern harrier, *Circus cyaneus* (SE): An uncommon migrant and rare permanent resident in Indiana, this bird may be found on the installation.

Sedge wren, *Cistothorus platensis* (ST): A locally common migrant and summer resident, the wren historically nested in Parke County. Its occurrence on the installation is possible.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): The eagle occurs within a 3-km radius of the installation. The eagles are most likely seen along the Wabash River as they migrate through the area.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): A rare migrant and very rare summer resident, its occurrence on the installation is possible. Recent breeding localities have been recorded in Parke and Vigo Counties in 1983 and 1979, respectively.

Black-crowned night heron, *Nycticorax nycticorax* (SE): A rare migrant and casual winter resident, the heron may be found in marsh areas of the installation.

Yellow-crowned night heron, *Nycticorax violaceus* (SE): A casual to rare migrant and summer resident, this bird was recorded nesting in Vigo County in 1985. Its occurrence in marsh areas of the installation is possible.

Osprey, *Pandion haliaetus* (SE): A rare to uncommon migrant throughout Indiana, this bird was recorded nesting in Parke County on Raccoon Lake in 1971. Its occurrence on waters around the installation is possible.

Common barn owl, *Tyto alba* (SE): A permanent resident in various areas of the state, the barn owl may be found on or near the installation in man-made structures such as barns or storage buildings.

Réptiles

Kirtland's snake, *Clonophis kirtlandii* (C2, ST): Historically, this species was recorded in Parke and Vigo Counties. Its occurrence on the installation is possible.

Mammals

Indiana bat, *Myotis sodalis* (FE, SE): Generally seen in the fall, this bat has been recorded in Parke and Vigo Counties.

Evening bat, *Nycticeius humeralis* (SE): Although this species is an uncommon summer resident, a hibernating colony of 358 bats was discovered in 1987 in Vigo County. The occurrence of this species on the installation is possible.

Fish

Eastern sand darter, *Ammocrypta pellucida* (C2): Historically collected from the Wabash River, this species has been recorded in waters within a 3-km radius of the installation.

Blue sucker, *Cyprinus elongatus* (C2): Recorded in the Wabash River in 1981, this species may be found in waters around the installation.

INVERTEBRATES

Mollusks

Fanshell, *Cypriolina stegaria* (FPE, SE): This mussel has been found in the Wabash River. Its occurrence in waters around the installation is possible.

White cat's paw, *Epioblasma obliquata perobliqua* (FPE, SE): A rare mussel in the Wabash River, its occurrence in waters around the installation is possible.

Northern riffleshell, *Epioblasma torulosa rangiana* (C2, SE): Historically recorded in the Wabash and White Rivers, this mollusk may be found in waters around the installation.

Snuffbox, *Epioblasma triquetra* (SE): Historically recorded in the Wabash River, this species may be found in waters around the installation.

Long-solid, *Fusconaia subrotunda* (SE): This species was historically found in the Wabash River, and may be found in waters around the installation.

White wartyback, *Plethobasius cicatricosus* (FE, SE): This mussel has been found in the Wabash River and may occur in waters around the installation.

Sheepnose, *Plethobasus cyphyus* (SE): Historically recorded in the Wabash River, this species may be found in waters around the installation.

Clubshell, *Pleurobema clava* (C2, SE): Historically recorded in the Wabash River, this species may be found in waters around the installation.

Rough pigtoe, *Pleurobema plenum* (FE, SE): This mussel was collected up to 1974 in the Wabash River.

Fat pocketbook pearly mussel, *Potamilus capax* (FE, SE): The Wabash River in Vermillion County is included in the official range. Live specimens have recently been located in the lower Wabash.

Other

Karner blue butterfly, *Lycaeides melissa samuelis* (C2, SE): Recorded in Parke County, this species may be found on the installation.

Endangered Species Summary

The bald eagle is known to occur within a 3-km radius of the installation. The eastern sand darter has also been recorded in waters around the installation. The Indiana Bat may forage in riparian areas. Several state listed bird species may occur. Several mollusk species may be found in waters around the installation. Other species to look for include Kirtland's snake, the two bat species, two fish species, and the Karner blue butterfly.

Main County: Morris**Surrounding Counties: Essex, Hunterdon, Passaic, Somerset, Sussex, Union, Warren****VERTEBRATES****Birds**

Cooper's hawk, *Accipiter cooperii* (SE): Known as an irregular visitor on the installation, this hawk is a year-round resident in Morris County. This species is found primarily in mature forests or open woodland and forest edges. Known to breed in Morris County, its occurrence on the installation is possible.

Northern goshawk, *Accipiter gentilis* (ST): This species is known to occur on the installation as a winter resident. The goshawk inhabits forest edges and open woodlands, also foraging in cultivated regions. Known to breed in Morris County, its occurrence on the installation as a breeding species is possible.

Grasshopper sparrow, *Ammodramus savannarum* (ST): Known to breed in Morris County, this sparrow is found in prairies, old fields and open grasslands. Its occurrence on the installation is possible.

Great blue heron, *Ardea herodias* (ST): Known as a permanent resident on the installation, the heron may be found in marshes or fields.

Short-eared owl, *Asio flammeus* (SE): Found in open country including marshes and open woodlands, this owl may be found in Morris County. Its occurrence on the installation is possible.

Upland sandpiper, *Bartramia longicauda* (SE): This species has an irregular occurrence on the installation. It is generally found in grassland areas, especially dry meadows and pastures.

American bittern, *Botaurus lentiginosus* (SE): Known as a migrant on the installation, the bittern may be found in marsh areas or wet fields. Known to breed in Morris County, its occurrence on the installation is possible.

Red-shouldered hawk, *Buteo lineatus* (ST): This species is an irregular transient on the installation. Usually found around wooded swamps and open woodlands. Known to breed in Morris County, its occurrence on the installation is possible.

Northern harrier, *Circus cyaneus* (SE): Known as a migrant on the installation, the harrier may be found in marsh or grassland areas.

Sedge wren, *Cistothorus platensis* (SE): A summer and fall resident as well as a breeder in New Jersey, this species may be found in grasslands and marshes in Morris County. Its occurrence on the installation is possible.

Bobolink, *Dolichonyx oryzivorus* (ST): Known to breed in Morris County, this bird may be found in tall grass, marsh, or open woody areas of the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE). Known throughout the state, breeding populations are being reestablished. This species may be seen on the installation.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): Known as a migrant throughout the state, this species may be seen on the installation.

Northern bald eagle, *Haliaeetus leucocephalus (alascanus)* (FE, SE): An irregular visitor to the installation, the eagle may be found around waters of the installation.

Cliff swallow, *Hirundo pyrrhonota* (SE): Known to occur on the installation as a migrant, the swallow may be found in flocks around bodies of water.

Black rail, *Laterallus jamaicensis* (ST): Known to breed in Morris County, the rail may be seen as a transient in marsh areas of the installation.

Red-headed woodpecker, *Melanerpes erythrocephalus* (ST): A rare resident in the state, the woodpecker may be found in Morris County and may occur on or around the installation. This bird is found in open woodland areas, especially with beech or oak trees and open areas with scattered trees.

Yellow-crowned night heron, *Nycticorax violaceus* (ST): An uncommon summer resident, the heron was recorded in Great Swamp National Wildlife Refuge in 1980. Its occurrence in marsh areas of the installation is possible.

Osprey, *Pandion haliaetus* (ST): A known migrant on the installation, the osprey may be seen as a transient around stream or lake areas of the installation.

Savannah sparrow, *Passerculus sandwichensis* (ST): This species occurs on the installation as a migrant.

Pied-billed grebe, *Podilymbus podiceps* (SE): This species occurs as a migrant on the installation. The grebe may be found in lakes, ponds, and marshes.

Vesper sparrow, *Pooecetes gramineus* (SE): Known as a migrant on the installation.

Barred owl, *Strix varia* (ST): A permanent resident on the installation. It is usually found in wooded areas bordering streams or swamp areas.

Reptiles

Wood turtle, *Clemmys insculpta* (ST): A permanent resident on the installation, the turtle inhabits swamp or riparian areas.

Bog turtle, *Clemmys muhlenbergi* (C2, SE): Known as a permanent resident on the installation, the turtle inhabits swamp or riparian areas.

Timber rattlesnake, *Crotalus horridus* (SE): This species occurs as a permanent resident on the installation. Generally found in wooded rocky hillsides and swampy areas, the snake was collected on Green Pond Mountain in the summer of 1986.

Mammals

Mountain lion, *Felis concolor cougari* (FE): Although thought to be extirpated from New Jersey, historically, the lion was found in this area.

Eastern woodrat, *Neotoma floridara magister* (C2, ST): Populations of this species are known to occur on the arsenal.

New England cottontail, *Sylvilagus transitionalis* (C2): The cottontail occurs within the range of the installation and may be seen there.

Amphibians

Blue-spotted salamander, *Ambystoma laterale* (SE): Known to occur in Morris County with populations in the Great Swamp National Wildlife Refuge. May be found in overgrown pastures or in sandy areas. Its occurrence on the installation is possible.

Tremblay's salamander, *Ambystoma tremblayi* (SE): Known to occur in Morris County, this species may be found in overgrown pastures or in sandy areas. Its occurrence on the installation is possible.

Longtail salamander, *Eurycea longicauda* (ST): Known to occur in Morris County, this species may be found on the installation. The salamander inhabits streambanks or spring runs and may disperse into wooded terrestrial habitats in wet weather. Generally, it hides under rocks, logs, and other debris.

Fish

Brook trout, *Salvelinus fontinalis* (ST): A permanent resident on the installation.

INVERTEBRATES

Hebard's noctuid moth, *Erythroecia hebardii* (C2) This species is recorded from the Lake Hopatcong-Johnsonburg area.

Mitchell's satyr butterfly, *Meonympha mitchelli mitchelli* (C2) This butterfly inhabits calcareous fens or lime sedge habitats in New Jersey. It may be extirpated. This species is recorded from the Dover-Lake Hopatcong area.

Endangered Species Summary

The bald eagle is an irregular visitor and the only known federally listed species found on the arsenal. Peregrine falcons may occur as rare migrants. Several state listed birds are known to occur on the installation. Resident species include the barred owl and the great blue heron. The goshawk is found in the winter. Known migrants include the American bittern, northern harrier, cliff swallow, osprey, pied-billed grebe, and savannah and vesper sparrows. Irregular visitors include the Cooper's and red-shouldered hawks and the upland sandpiper. Resident reptiles include the wood and bog turtles as well as the timber rattlesnake. The brook trout is found in waters of the installation. Possible nesting bird species include the grasshopper sparrow, short-eared owl, sedge wren, and the bobolink. The red-headed woodpecker, black rail, and yellow-crowned night heron may be seen as transients. The state listed longtail, blue-spotted, and Tremblay's salamanders may occur on the installation.

FORT PICKETT**FORSCOM 60,061 Acres Virginia****Main Counties:** Dinwiddie, Nottoway, and Brunswick**Surrounding Counties:** Amelia, Prince Edward, Lunenburg, Mecklenburg, Greensville, Sussex, Prince George, Chesterfield**VERTEBRATES****Birds**

Henslow's sparrow, *Ammodramus henslowii* (RSE): Found in low wetlands covered with brushes and sedges and sometimes in clearings, this bird historically bred in eastern Virginia. Its occurrence on the installation is possible.

Northern harrier, *Circus cyaneus* (RSE): Historically recorded as an uncommon migrant, this species may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): An uncommon migrant throughout the state, the falcon may be seen as a transient on the installation.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): The shrike may be found on the installation. Potential breeding sites have been identified in Brunswick and Dinwiddle Counties.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Considered the rarest warbler in North America, this bird historically was reported in Virginia. It may have occurred only as a migrant.

INVERTEBRATES**Mollusks**

Dwarf wedge mussel, *Alasmidonta heterodon* (FE, SE): The Nottoway River within the bounds of Fort Pickett may provide habitat for this mussel. This species was listed on March 14, 1990. It has recently been found in the Nottoway River upstream of the installation.

Endangered Species Summary

Although no listed species are known to occur on Fort Pickett, the peregrine falcon may be seen as a transient. The loggerhead shrike may breed in the area. The northern harrier and the Henslow's sparrow may be seen as transients on the installation. The dwarf wedge mussel should be looked for in the Nottoway River adjacent to the installation.

RADFORD AAP **AMC** **6,901 Acres** **Virginia**

Main Counties: Montgomery, Pulaski

Surrounding Counties: Bland, Carroll, Craig, Floyd, Franklin, Giles, Roanoke, Wythe

VERTEBRATES

Birds

Northern harrier, *Circus cyaneus* (RSE): Historically recorded as an uncommon migrant, this species may be seen as a transient on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This subspecies historically nested on cliffs on the New River. Mountain breeding populations are being reestablished. The falcon may be seen as a transient on the installation.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): The breeding range of this subspecies is within the area of the installation. Wintering birds also have been recorded in the vicinity.

Yellow-crowned night heron, *Nycticorax violaceus* (RST): This bird was recorded nesting around Radford in 1970. Usually found in marsh areas, its occurrence on the installation is possible.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1): Historically recorded to breed in the mountainous areas of Montgomery County, this species may be seen as a transient on the installation.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Considered the rarest warbler in North America, this bird was historically reported in Virginia. It may occur as a migrant on the installation.

Mammals

Eastern cougar, *Felis concolor couguar* (FE): Historically found throughout the state, the continued presence of this species is unconfirmed.

Indiana bat, *Myotis sodalis* (FE, SE): Known from Nellie's Hole, Montgomery County, the bat may be seen as a transient along riparian areas of the installation.

Amphibians

Hellbender, *Cryptobranchus alleganiensis* (C2): The hellbender may be found in the New River. It has been reported in the vicinity of the installation.

Mudpuppy, *Necturus maculosus maculosus* (C2): Known from the New River, this species may be found in waters around the installation.

Fish

Finescale saddled darter, *Etheostoma osburni* (C2): Known from the New River, this species may be found in waters around the installation.

Kanawha minnow, *Phenacobius teretulus* (C2): Collected in the New River, the minnow may occur in waters around the installation.

INVERTEBRATES

Virginia fringed mountain snail, *Polygyriscus virginianus* (FE, SE): This species may be found in talus and on bluffs along the New River.

Endangered Species Summary

The Virginia fringed mountain snail may be found in talus and on bluffs along the New River. The peregrine falcon may be a transient on the installation. The Bachman's warbler historically occurred in the area, and the Appalachian Bewick's wren may nest on or around the installation. Other federally listed species which may occur on the installation include the eastern cougar and the Indiana bat. Category species which may be found in the New River drainage include the hellbender, mudpuppy, kanawha darter and finescale darter. Other nesting birds of concern that may occur include the loggerhead shrike and the yellow-crowned night heron. The northern harrier may be seen as a transient.

RAVENNA AAP

AMC

20,200 Acres Ohio

Main Counties: Portage, Trumbull

Surrounding Counties: Ashtabula, Geauga, Mahoning, Stark, Summit

VERTEBRATES

Birds

American bittern, *Botaurus lentiginosus* (SE): These bitterns have been sighted in Geauga, Portage, Summit, and Trumbull Counties since 1980. This may indicate a breeding population in the area.

Northern harrier, *Circus cyaneus* (SE): Summering harriers have been observed in Ashtabula and Trumbull Counties since 1980. They may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This subspecies migrates through Ohio and since 1988, one pair has nested in Toledo. A rare occurrence on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This subspecies migrates through Ohio. A rare occurrence on the installation is possible.

King rail, *Rallus elegans* (SE): Records from the 1960s indicate these rails nested in Youngstown (about 25 km SE) and Geauga County. They may be found in marsh areas around the installation.

Northern waterthrush, *Seiurus noveboracensis* (SE): Since 1930, the thrush has summered in Portage County. These birds are found along streams, ponds, or wooded swamps. Their occurrence in areas around the installation is possible.

Bewick's wren, *Thryomanes bewickii* (SE): Although this wren historically nested in Portage County, few recent sightings have been recorded in Ohio.

Barn owl, *Tyto alba* (SE): Found throughout Ohio, the owl nests and roosts in tree cavities, barns, and abandoned buildings. Its occurrence on the installation is possible.

Mammals

Indiana bat, *Myotis sodalis* (FE, SE): This species may be found foraging in riparian areas of the installation. It is listed as possibly occurring in the main and surrounding counties.

Reptiles

Eastern massasauga, *Sistrurus catenatus catenatus* (C2): Historically, the massasauga was found within Stark and Trumbull Counties.

Fish

Mountain brook lamprey, *Ichthyomyzon greeleyi* (SE): This species was collected in the West Branch of the Mahoning River. Streams originating on the installation may affect this area.

INVERTEBRATES

Mollusks

Eastern pondmussel, *Ligumia nastua* (SE): This species is found in waters around the installation.

Endangered Species Summary

No federally listed species are known to occur on the installation. The Indiana bat and the Peregrine falcon may occur as migrants. The eastern massasuga, a category species, was historically found in the area. State listed species known from areas around the installation include the mountain brook lamprey and the eastern pondmussel. Other possible state listed birds that may be found include the American bittern, northern harrier, king rail, northern waterthrush, Bewick's wren, and barn owl.

REDSTONE ARSENAL

AMC

3,800 Acres

Alabama

Main County: Madison

Surrounding Counties: Jackson, Limestone, Marshall, Morgan, AL; Franklin, Lincoln, TN

VERTEBRATES

Birds

Piping plover, *Charadrius melanotos* (FT): This bird is found as a rare migrant throughout Alabama and may occur in Limestone County. Two birds were recorded on the Wheeler Wildlife Refuge in 1973. The refuge is across the Tennessee River from the installation. Occurrence on the shores of lakes on the installation is possible.

American peregrine falcon, *Falco peregrinus anatum* (FT, ST): The peregrine is a transient species in Alabama and migrates mainly along the Gulf Coast. Its occurrence on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, ST): The peregrine is a transient species in Alabama and migrates mainly along the Gulf Coast. Occurrence on the installation is unlikely but possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Eagles have been sighted on the installation and two or three individuals have been recorded to winter at Wheeler National Wildlife Refuge.

Wood stork, *Mycteria americana* (FE, SE): Historical records listed stork occurrences for the Wheeler National Wildlife Refuge. Since storks can travel up to 128 km to feed, their occurrence on this installation is possible. The birds will forage in shallow ponds, on the shores of deeper fresh water, or other areas where there are high fish concentrations.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1, ST): A rare migrant in the state of Alabama, sighting the wren on the installation is possible.

Bachman's warbler, *Vermivora bachmani* (FE, SE): This species was once a rare spring transient in central and northern Alabama. The bird has not been seen in the mountain region of Alabama since the late 1950s and is thought to be extinct.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA): Populations have been reintroduced and have survived in the Wheeler National Wildlife Refuge.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Alabama, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE, SE): Although this species is probably extirpated in Alabama, the installation is within its historic range. Wild populations still exist, making the occurrence of this species possible.

Gray bat, *Myotis grisescens* (FE, SE): Known to use caves near the installation, the bats will also forage in riparian and other open water areas. Records also list the bats as occurring in surrounding counties.

Indiana bat, *Myotis sodalis* (FE, SE): This species may be found in Madison County as well as surrounding counties. It is known to occur in Jackson County. The bats may be found foraging in riparian areas.

Fish

Slackwater darter, *Etheostoma boschungi* (FE, ST): This darter is known in the Flint River drainages in Madison County. Although intense sampling has failed to find it in nearby drainages (e.g., Indian Creek), stretches of the Flint River are less than 25 km from the installation.

Tuscumbia darter, *Etheostoma tuscumbia* (C2): This species has been recorded in Indian Spring, which is less than 16 km from the installation.

INVERTEBRATES

Mollusks

Fanshell, *Cyprogenia stegaria (irrorata)* (C2): Historically this species was found in the Tennessee River. It was recorded in the Wheeler Reservoir and Guntersville Dam tailwaters in the early 1960s.

Dromedary mussel, *Dromus dromas* (FE): Considered a "main channel" species, the subspecies *caparatus* was once collected in Limestone Creek, Mooresville. This location is less than 16 km from the installation. Modifications and impoundments in the river may make this species rare in this location.

Oyster mussel, *Epioblasma capsaeformis* (C2): This species was once collected in Limestone Creek, Mooresville, Limestone County, which is less than 16 km from the installation. This mussel is generally a stream species. This species may not be found in the area now because of modifications in the river system.

Tan riffleshell, *Epioblasma walkeri* (FE): This mollusk is listed as possibly occurring in Madison and Limestone Counties. Historical records show this species was collected in Limestone Creek in Mooresville, Limestone County and the Flint River and Hurricane Creek in Gurley, Madison County. These areas are less than 16 and 25 km, respectively, from the installation.

Fine-rayed pigtoe, *Fusconaia cuneolous* (FE): This mussel is known to occur in Jackson County. Historical records indicate this species was found in the Flint River and Hurricane Creek. These tributaries are less than 25 km from the installation. Another locale where this species has been found is Limestone Creek. This location is less than 16 km from the installation. The big river subspecies *appressa* has been found in the lower reaches of both Limestone Creek and the Flint River.

Shiny pigtoe, *Fusconaia cor (edgarina)* (FE): A species found throughout the Tennessee River, it is known to occur in Jackson County and in Limestone County. Historically, it was recorded in the Flint River at Gurley, Madison County, which is less than 25 km from the installation.

Pink mucket pearly mussel, *Lampsilis abrupta* (= *orbiculata*) (FE): Known in Jackson, Madison, and Marshall Counties, and possibly Limestone County, this species has been found in various areas of the Tennessee River. Historical accounts show that it was once collected in Limestone Creek, Mooresville, Limestone County. This location is less than 16 km from the installation.

Birdwing pearly mussel, *Lemiox rimosus* (*Conradilla caelata*) (FE): This species has not been found near the installation, however, historical records show it was once collected in the Flint River.

Slabside pearly mussel, *Lexingtonia dollabolloides* (C2): This mollusk was recorded in Limestone Creek. This location is less than 16 km from the installation. This species also has been collected in the Flint River at Gurley and New Hope; both locations are less than 25 km from the installation.

Ring pink, *Obovaria retusa* (FPE): This is a large river species once collected throughout the Tennessee River.

Orange-foot pimpleback, *Plethobasus cooperianus* (FE): Possibly found in Madison County, this species was once found in Limestone Creek. This location is less than 16 km from the installation. Currently it is also known to occur in Marshall County.

Tennessee clubshell, *Pleurobema oviforme* (C2): This species was once collected in the Flint River at Gurley. Its subspecies *holstoneae* was recorded in Limestone Creek (less than 16 km from the installation) and Hurricane Creek (less than 25 km from the installation). The clubshell may be extirpated from this area because of modifications and pollution in the river system.

Rough pigtoe, *Pleurobema plenum* (FE): Regarded as a "main river species," this mussel is known in Marshall County. It is listed as possibly occurring in Madison and Morgan Counties in tributaries around the installation.

Pale lilliput pearly mussel, *Toxoplasma cylindrella* (FE): Historical records show this species was found in the Flint River and in Indian Creek, Madison County. Indian Creek flows through the installation. Populations are presently known to occur in Jackson County.

Other

Alabama cave shrimp, *Palaemonias alabamae* (FE): One of the remaining populations of this species is found in Bobcat Cave on the Arsenal. Agreements have been signed between the Army and the U. S. Fish and Wildlife Service to preserve this species' habitat.

Endangered Species Summary

The Alabama cave shrimp is known to occur in Bobcat Cave on the installation. The bald eagle, and the gray bat are the only two species likely to be found and affected by installation activities.

FORT RUCKER

TRADOC 64,379 Acres Alabama

Main Counties: Dale, Coffee

Surrounding Counties: Barbour, Covington, Crenshaw, Geneva, Henry, Houston, Pike

VERTEBRATES

Birds

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE): Historically known from the southeast, this bird was last sighted in Alabama in 1907.

American peregrine falcon, *Falco peregrinus anatum* (FT, ST): A local transient species in Alabama migrating along the Gulf Coast, its occurrence on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, ST): A local transient species in Alabama migrating along the Gulf Coast, its occurrence on the installation is possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Known occurrences are listed in Barbour and Henry Counties. Because the birds may range widely to forage, an occurrence on or near the installation is possible.

Wood stork, *Mycteria americana* (FE, SE): This species is known to occur in Barbour County. Possible occurrences are listed in Covington, Henry and Houston Counties. Since storks can travel up to 128 km to feed, its occurrence on this installation is possible. The birds will forage in shallow ponds, on the shores of deeper fresh water, or other areas where there are high concentrations of fish. When populations are high in Florida, the wood storks are more likely to appear in Alabama, where they may disperse after the breeding season.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): Historically, this bird was found throughout the state. It could occur within the installation if suitable pine stands were available.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1, ST) This bird is a rare migrant in Alabama. Sighting on the installation is possible but unlikely.

Bachman's warbler, *Vermivora bachmani* (FE, SE): This species was once a rare summer resident in southern Alabama. The bird has not been seen in the mountain region of Alabama since the late 1950s.

Reptiles

Eastern indigo snake, *Drymarchon corais couperi* (FT, SE): Although this species has not been found as a native in Alabama since 1954, the installation is within its historical range. Attempts to restock have also been made in Covington County. Habitat availability and historical records indicate it could occur in Covington and Geneva counties.

Gopher tortoise, *Gopherus polyphemus* (C2, ST). The western population of this species, not within the range of the installation, is considered threatened. The historic range of the eastern population includes the installation.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Alabama, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE, SE): Although this species is probably extirpated in Alabama, the installation is within its historic range. Wild populations still exist, making the occurrence of this species possible.

Indiana bat, *Myotis sodalis* (FE, SE) : This species may occur in Coffee and Dale counties. It is also listed as possibly occurring in all surrounding counties except Covington. If suitable habitat (riparian areas) is available, this species may be found foraging within the installation.

INVERTEBRATES

Mollusks

Southern sandshell, *Lampsilis australis* (C2): Historical records indicate this species was collected less than 5 miles from the installation (10). It was also found at the East Fork of the Choctawhatchee River, at Midland City, less than 10 miles from the installation.

Southern kidneyshell, *Ptychobranchus (Lampsilis) jonesi* (C2): Historical records indicate this species was taken from the West Fork Choctawhatchee River, 7 miles southeast of Ozark, and in the Choctawhatchee River, one mile north of Newton. Both locations are in Dale County and less than 9 km from the installation.

Choctaw bean, *Villosa choctawensis* (C2): This species was collected in the Choctawhatchee River at Wauferford. This is less than 4 km from the installation. Modifications in the river system may make the occurrence of this species rare.

Endangered Species Summary

There are no records of endangered species on the installation, although habitat may be available for red-cockaded woodpeckers and gopher tortoises. Historical records indicate several additional species may have been present in the past.

CAMP SANTIAGO**NGB****11,379 Acres Puerto Rico****Main Municipality:** Salinas**Surrounding Municipality:** Guamo**VERTEBRATES****Birds**

Yellow-shouldered blackbird, *Agelaius xanthomus* (FE): Formerly common along the coast throughout the island, this species occurs within a 9.4-km radius of the installation.

Red siskin, *Carduelis cucullata* (No federal rating): This Venezuelan species has become established in southern Puerto Rico. It may be found nesting in areas of Camp Santiago.

Piping plover, *Charadrius melanotos* (FT): A rare winter visitor in Puerto Rico, this species may be seen as a transient on the installation. It has been seen within 9.4 km of the installation.

Puerto Rican plain pigeon, *Columba inornata wetmorei* (FE): This species is known only to survive in forested ravines and bamboo clumps surrounding Lake Cidra. Lake Cidra is less than 9.4 km from the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE): Falcons are regular but uncommon to rare winter visitors. They usually are found on off-shore cays and rocks and water bodies containing many shorebirds or waterfowl, but are sometimes seen inland. Falcons are found from April to October, being more common during migration.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): Falcons are regular but uncommon to rare winter visitors. They usually are found on off-shore cays and rocks and water bodies containing many shorebirds or waterfowl, but are sometimes seen inland. Falcons are found from April to October, being more common during migration.

Brown pelican, *Pelicanus occidentalis* (FE, SE): A nesting species on the island, the pelican may be seen as a transient on the installation, especially during the winter when populations are supplemented with migrants.

Roseate tern, *Sterna dougallii* (FT): A breeding resident seen mostly from April to September, this species is known to occur within a 9.4-km radius of the installation.

Reptiles

Puerto Rican Boa, *Epicrates inornatus* (FE). This species has been collected and potential habitat occurs in areas north of the installation.

Amphibians

Golden coqui, *Eleutherodactylus jasperi* (FE): All specimens to date have been collected from a small semicircular area of 3.8-km radius south of Cayey, generally at elevations above 700 meters. Areas of critical habitat are less than 3.1 km north of the installation.

Puerto Rican crested toad, *Peltophryne lemur* (FT): Native to the island, this species historically was collected near Coamo, a town near the installation.

Endangered Species Summary

The yellow-shouldered blackbird may be seen on the installation. Breeding species that may be seen as transients on the installation include the brown pelican and the roseate tern. Species that occur near the installation include the Puerto Rican plains pigeon, the Puerto Rican boa, the golden coqui, and the Puerto Rican crested toad. Winter migrants that may be seen include the peregrine falcon and the piping plover.

SAVANNA AD **AMC** **13,000 Acres Illinois**

Main Counties: Carroll, JoDaviess

Edge County: Jackson, IA

Surrounding Counties: Stephenson, IL; Clinton, Dubuque, IA; Grant, LaFayette, WI

VERTEBRATES

Birds

Cooper's hawk, *Accipiter cooperi* (SE): An uncommon migrant and winter resident as well as a rare summer resident, this hawk was recorded on the installation in June 1990. There is strong evidence that it breeds here.

Sharp-shinned hawk, *Accipiter striatus* (SE): A common migrant, an uncommon winter resident, and a very rare summer resident, this bird was recorded in Carroll and Whiteside Counties in January, 1986. Its occurrence on the installation is possible.

Short-eared owl, *Asio flammeus* (SE): An uncommon migrant and winter resident and a rare summer resident, this species was recorded in Carroll County in 1980. Its occurrence on the installation in marsh or field areas is possible.

Long-eared owl, *Asio otus* (SE): An uncommon migrant and winter resident and a rare summer resident, this species roosts in conifer groves by day. It may be seen on the installation as a migrant.

Upland sandpiper, *Bartramia longicauda* (SE): An uncommon migrant and summer resident throughout Illinois, the sandpiper was found on the installation in June 1990. It is also known to breed here.

American bittern, *Botaurus lentiginosus* (SE): An uncommon migrant and rare summer and winter resident, historical records indicate the bird inhabited the area. Their occurrence on the installation is possible.

Red-shouldered hawk, *Buteo lineatus* (SE): An uncommon migrant, summer and winter resident in southern Illinois, this bird was observed on the installation during the breeding season in 1989.

Swainson's hawk, *Buteo swainsoni* (3C, SE): Recorded in the spring of 1986 in Whiteside County, this species is a rare migrant and local summer resident in northern Illinois. Its occurrence as a migrant on the installation is possible.

Great egret, *Casmerodius albus* (SE). The egret is known to occur in nesting rookeries on the installation and in other areas of JoDaviess County.

Veery, *Catharus fuscescens* (ST). A common migrant, this bird may be seen on the installation. Breeding habitat is not available.

Brown creeper, *Certhia americana* (ST): A common migrant and winter resident and an occasional summer resident, this species was found nesting on the installation in 1990.

Black tern, *Chlidonias niger* (SE): A common migrant and a common summer resident in northern Illinois and a rare summer resident in the central part of the state, this bird uses the Mississippi River valleys for migration routes. Its occurrence on the installation is possible, although it is not likely to breed there.

Northern harrier, *Circus cyaneus* (SE): A common migrant and uncommon winter and rare summer resident throughout the state. The harrier may be seen on the installation.

Little blue heron, *Egretta caerulea* (SE): An uncommon migrant breeding locally in the southern part of the state, its occurrence on the installation as a postbreeding wanderer is possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): An uncommon migrant and rare winter resident, peregrines are being reintroduced to the state. Their occurrence on the installation is possible, although unlikely. Suitable breeding habitat may occur along bluffs of the Mississippi River.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): An uncommon migrant and rare winter resident, the occurrence of these peregrines on the installation is possible, although unlikely.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): The eagle is known to nest and winter on the installation.

Least bittern, *Ixobrychus exilis* (SE): An uncommon migrant and summer resident, historically, the bittern nested in northern Carroll County. Occurrence on the installation is possible.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, ST): An occasional summer and winter resident, the shrike is listed as occurring in Carroll County. Shrikes were also recorded in Whiteside County in the fall of 1981. The occurrence of these birds on the installation is possible.

Blac'-crowned night heron, *Nycticorax nycticorax* (SE): A fairly common migrant and an uncommon summer and rare winter resident, historical records indicate this bird was found in Carroll County. It may be found in marsh areas of the installation, most likely while it is foraging.

Osprey, *Pandion haliaetus* (SE): Although an uncommon migrant, eight birds were recorded at Savanna in September 1985. Occurrence on the installation is possible.

Double-crested cormorant, *Phalacrocorax auritus* (SE): An uncommon migrant along the Mississippi River, a cormorant colony is at Thompson in Carroll County. Occurrence of these birds on the installation is possible.

Barn owl, *Tyto alba* (SE): An occasional resident throughout the state, this species roosts in man-made structures. It was found adjacent to the installation in 1986 and 1987.

Yellow-headed blackbird, *Xanthocephalus xanthocephalus* (SE): A locally uncommon summer resident, the blackbird is listed as occurring in Carroll County.

Reptiles

Dusty hognose snake, *Heterodon nasicus gloydi* (ST): This snake is listed as occurring in Carroll County. Its occurrence on the installation is likely.

Eastern massasauga, *Sistrurus catenatus catenatus* (C2): This snake is listed as occurring in Jo Daviess County, and its occurrence on the installation is possible.

Mammals

White-tailed jackrabbit, *Lepus townsendii* (SE): This species has been known to occur on the installation, although a 1990 survey failed to find the rabbit. This is the only known population of this species in the state.

River otter, *Lutra canadensis* (ST): This species is known to occur on the installation.

Bobcat, *Lynx rufus* (ST): This species is listed as occurring in Carroll and JoDaviess Counties, and may be found on the installation.

Indiana bat, *Myotis sodalis* (FE, SE): The bat is listed as occurring in JoDaviess County. Statewide in distribution, the bat may be found in riparian areas with mature trees. It forages for insects by flying under tree canopies, and may be found within these areas on the installation.

Fish

Lake sturgeon, *Acipenser fulvescens* (ST): A rare find in the state of Illinois, this fish may be seen in the Mississippi River. Fifteen sturgeon were caught in the vicinity of the installation in 1989.

Pallid shiner (chub), *Notropis (=Hybopsis) amnis* (SE): Collected in 1983, 6.4 km north of Blackhawk, this species may be found in waters around the installation.

INVERTEBRATES

Mollusks

Spectaclecase, *Cumberlandia monodonta* (C2, SE): Rare and local, this species was historically collected on the Mississippi River.

Elephant-ear, *Elliptio crassidens* (ST): This mollusk was historically collected in the Mississippi River less than 8 km from the installation.

Snuff box, *Epioblasma triquetra* (SE): Found in the Mississippi River, this species may occur in waters around the installation.

Higgins eye, *Lampsilis higginsi* (FE, SE): Found in the Mississippi River and larger tributaries, this species was historically collected in waters around the installation. It is still recorded in JoDaviess County.

Scaleshell, *Leptodea leptodon* (C2): This species was historically recorded at Savanna, in Carroll County. Its occurrence in waters around the installation is possible.

Sheepnose, *Plethobasus cyphyus* (ST): Historically collected from the Mississippi River, the occurrence of this species in waters around the installation is possible.

Rainbow, *Villosa iris* (SE). This species has been collected in the upper Mississippi River. Its occurrence in waters around the installation is possible.

Endangered Species Summary

The bald eagle is known to use areas of the installation for breeding and wintering. The white-tailed jackrabbit and river otter are state endangered and threatened species known to occur on the installation. State and federally listed mollusks may be found in the Mississippi River around the installation. Several other state listed species, including herons, egrets, river otters, and fish may occur in marsh areas of the installation.

SENECA AD **AMC** **16,350 Acres** **New York**

Main County: Seneca

Surrounding Counties: Cayuga, Ontario, Schuyler, Tompkins, Wayne, Yates

VERTEBRATES

Birds

Golden eagle, *Aquila chrysaetos* (SE): A rare to uncommon migrant, the occurrence of this species on the installation is possible.

Red-shouldered hawk, *Buteo lineatus* (ST): A common to locally abundant migrant, this bird may be seen on the installation. Its breeding range is also within the area.

Northern harrier, *Circus cyaneus* (ST): A common to very abundant migrant, especially in the spring along Lake Ontario, this species may be seen on the installation. It may also breed in the area.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This species is a rare migrant through the area, although reintroductions have improved the likelihood that a falcon may be encountered.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This species is a rare migrant throughout the area.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): Known to breed in Seneca County, this species may be seen as a transient or migrant on the installation.

Osprey, *Pandion haliaetus* (ST): A fairly common to common migrant along Lake Ontario, the osprey may be seen around riparian areas or Seneca Lake.

Common tern, *Sterna hirundo* (ST): A locally abundant breeder along the north edge of Cayuga Lake it may be seen around riparian areas of the installation during migration.

Reptiles

Bog turtle, *Clemmys muhlenbergi* (C2, SE): The range of this turtle includes the installation, making its occurrence possible.

Timber rattlesnake, *Crotalus horridus* (ST): The installation is at the northern part of this snake's range. Its occurrence is possible.

Massasauga, *Sistrurus catenatus catenatus* (SE). The installation is at the southeastern edge of this snake's range. Its occurrence is possible.

Mammals

Mountain lion, *Felis concolor cougari* (FE, SE): Although this species has probably been extirpated from New York, the lion historically occurred in this area.

Indiana bat, *Myotis sodalis* (FE, SE): This species may occur in Seneca and all the surrounding counties. Its occurrence as a transient in riparian areas of the installation is possible.

Endangered Species Summary

No federally listed species are known to occur on the installation. The bald eagle is known to nest in the area and the peregrine falcon may be seen as a migrant. State listed birds that may migrate include the golden eagle, red-shouldered hawk, northern harrier, osprey, and common tern. State listed reptiles that range within areas of the installation include the bog turtle, timber rattlesnake, and the massasauga. The Indiana bat may be seen as a transient on the installation.

CAMP SHELBY NGB 136,000 Acres Mississippi

Main Counties: Forrest, Perry

Surrounding Counties: Covington, Jones, Lamar, Pearl River, Stone

Birds

Bachman's sparrow, *Aimophila aestivalis* (C2): Found in Perry County, these sparrows will inhabit open pastures, thick grasses with low trees, and open woodlands. Occurrence on the installation is possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): These birds migrate along the Atlantic and Gulf coasts. This species may occur within the area as a migrant.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): One colony was known to exist on the installation in recent years. No birds were observed during a 1990 survey of the camp. The woodpeckers require mature pine forests (greater than 60 or 70 years old) for nesting.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA, SE): This species is listed as occurring in Perry County. Since alligators inhabit swamps and rivers, their occurrence around the installation is possible.

Eastern indigo snake, *Drymarchon corais couperi* (FT, SE): A commensal species with the Gopher tortoise, this snake could be found wherever the tortoise is found. Historically the snake occurred within the area of the installation.

Gopher tortoise, *Gopherus polyphemus* (FT, SE): The tortoise is found in the DeSoto National Forest and within the camp's boundaries.

Black pine snake, *Pituophis melanoleucus lodgini* (C2, SE): This snake is listed in Forrest and Perry Counties and is present on the installation.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although extirpated in Mississippi, the installation is within its historic range. Remaining populations are in captivity.

Florida panther, *Felis concolor coryi* (FE, SE): Historically this species inhabited the area. Although wild populations still exist, they are rare and panthers are unlikely to be found on the installation.

Endangered Species Summary

The red-cockaded woodpecker, gopher tortoise, and indigo snake are the only federally listed species known or likely to exist within the boundaries of Camp Shelby. The state listed black pine snake is also found on the installation. Other species may possibly occur, generally as transients.

FORT STEWART FORSCOM 279,270 Acres Georgia

Main Counties: Bryan, Evans, Liberty, Long, Tattnall

Edge County: Chatham

Surrounding Counties: Appling, Bullock, Candler, Effingham, McIntosh, Toombs, Wayne

VERTEBRATES

Birds

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE, SE): This bird historically ranged through coastal and southern Georgia. Last reports were recorded from Florida in the 1950s and Texas in 1967. It is thought to be extinct.

Piping plover, *Charadrius melanotos* (FT): Known in Chatham, Liberty, and McIntosh Counties, the plovers winter along coastal areas. The occurrence of these birds on or near Hunter Army Airfield is possible.

Kirtland's warbler, *Dendroica kirtlandii* (FE, SE): The warbler migrates along the coast and may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This falcon is a migrant through Georgia, and its occurrence on the installation is possible.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT): This falcon is a migrant through Georgia, and its occurrence on the installation is possible.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Historically, eagles bred in December on coastal islands of Georgia. Presently, these birds are transitory in Bryan and Liberty Counties and known from Chatham and McIntosh Counties, probably as winter residents. Eagles may travel several miles to forage, and the occurrence of these birds on the installation is likely. There is a hacking station on the Altamaha River in McIntosh County.

Wood stork, *Mycteria americana* (FE): Listed as foraging in Bryan and Liberty Counties, it is also known to occur in Chatham and McIntosh Counties, and may also be found in Effingham, Long, and Wayne Counties. Storks may travel up to 128 km between nesting and feeding areas. Receding water levels with high concentrations of fish are ideal foraging conditions. These birds may be found within or around the installation if such conditions exist.

Eastern brown pelican, *Pelecanus occidentalis carolinensis* (SE): Pelicans are found along the coast and may occasionally be found within the installation or Hunter Army Airfield.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): Nesting in Liberty and Bryan Counties, 189 colonies have been recorded on the installation.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1): Historically, this bird was recorded in the Savannah area as a migrant. Occurrence on the installation is possible.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Historically recorded as breeding near Savannah, this bird is considered the rarest warbler of North America, and may be extinct.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA): The alligator is known to occur on the installation.

Loggerhead sea turtle, *Caretta* (FT): Known in Bryan, Chatham, Liberty, and McIntosh Counties, this species lays its eggs on beaches along the coast, but spends most of the rest of its life on the open ocean.

Eastern indigo snake, *Drymarchon corais couperi* (FT, ST): Known to occur in all main counties and may occur in Chatham and Toombs Counties. A commensal species with the Gopher tortoise, this snake could be found where ever the tortoise is found.

Gopher tortoise, *Gopherus polyphemus* (C2): The tortoise is known to occur on the installation.

Kemp's (Atlantic) ridley sea turtle, *Lepidochelys kempii* (FE, SE): This species is known to occur in Bryan and McIntosh Counties, and may possibly be seen in Chatham and Liberty Counties. Prefers shallow waters, and may be seen in waters around the installation.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated in Georgia, the installation is within its historic range.

Florida panther, *Felis concolor coryi* (FE): Although a very rare transient in Georgia, this species once was found throughout the state. Wild populations still exist, making the panther's occurrence on the installation possible.

Eastern cougar, *Felis concolor cougari* (FE, SE): Although a very rare transient in Georgia, this species was once found throughout the state. Wild populations still exist, making the cougar's occurrence on the installation possible.

Sherman's pocket gopher, *Geomys pinetis fontanelus* (3A, SE): The historical distribution of this species was probably less than 16 km from the installation. The present distribution is unknown.

West Indian manatee, *Trichechus manatus* (FE, SE): Known to occur in Chatham, Liberty, and McIntosh Counties, the manatees inhabit inter-coastal areas and may be seen along waterways near the installation.

Fish

Shortnose sturgeon, *Acipenser brevirostrum* (FE, SE): This species habitat is Atlantic seaboard rivers. The occurrence of this species in waters on and around the installation is likely.

Endangered Species Summary

The red-cockaded woodpecker, the gopher tortoise, and the alligator are federally listed species known to occur on the installation. The indigo snake is likely to be found in the area. The wood stork and bald eagle may be seen foraging on the installation. Peregrine falcon, Kirtland's warbler, and Bewick's wren may be observed during migration. The brown pelican and piping plover may be found in coastal areas, and manatees and sea turtles may be seen in waters near the installation or around Hunter Army Airfield.

FORT STORY

TRADOC

9723 Acres

Virginia

Main County: Virginia Beach

Surrounding Counties: Accomack; Chesapeake City, VA; Currituck, NC

VERTEBRATES

Birds

Henslow's sparrow, *Ammodramus henslowii* (RSE, S1): Reported from Virginia Beach, the sparrow may be seen on the installation.

Piping plover, *Charadrius melanotos* (FT, ST): Although these birds breed on the Barrier Islands and rarely west of the Chesapeake Bay, they may be seen as transients on the installation.

Wilson's plover, *Charadrius wilsoni* (SE): The plover nests in Northhampton County along the Atlantic coast. It may be seen on the installation as a transient.

Northern harrier, *Circus cyaneus* (RSE): Historically recorded as an uncommon migrant, this species may be seen on the installation.

Sedge wren, *Cistothorus platensis* (RSE): An uncommon to common transient and winter resident along the Atlantic coast, the wren may be seen on the installation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): The falcon migrates along the coast and may be seen on the installation. A coastal breeding population is being reestablished.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): The falcon migrates along the coast and may be seen on the installation.

Yellow-crowned night heron, *Nycticorax violaceus* (RST): An uncommon summer resident of the Coastal plain and rare in the winter, this species may be seen on the installation.

Eastern brown pelican, *Pelecanus occidentalis* (FE): The pelican is an occasional spring, summer, and fall visitor near the Atlantic Coast and at the mouth of the Chesapeake Bay. Its occurrence on the installation is likely.

Eastern least tern, *Sterna antillarum antillarum* (RST): The tern nests along the Atlantic coast and feeds in the Chesapeake Bay estuary. Former colonies were known from Cape Henry. Occurrence of this species on the installation is likely.

Gull-billed tern, *Sterna nilotica* (RST): The gull nests mainly on barrier islands along the Atlantic coast, and may be seen as a transient on the installation.

Bachman's warbler, *Vermivora bachmanii* (FE, SE): Considered the rarest warbler in North America, this bird was historically reported in Virginia. It may have occurred only as a migrant.

Reptiles

Loggerhead sea turtle, *Caretta caretta caretta* (FT, ST): The most common sea turtle in Chesapeake Bay, the loggerhead nests along Virginia's shoreline. Occasionally, this includes Virginia Beach. The turtles are usually seen from May to October.

Green turtle, *Chelonia mydas mydas* (FT): Immatures less than 45 kg are considered uncommon summer visitors in the lower Chesapeake Bay. Their occurrence in waters around the installation is possible.

Eastern chicken turtle, *Deirochelys reticularia reticularia* (SE): A rare species reported from the adjacent Seashore State Park. This turtle is found in Cypress ponds.

Atlantic leatherback, *Dermochelys coriacea* (FE): An occasional summer visitor in the Chesapeake Bay region, this turtle is usually seen from May to October.

Kemp's (Atlantic) ridley, *Lepidochelys kempii* (FE, SE): Found along the Atlantic shoreline, this species is an occasional summer resident in coastal waters.

Mammals

Pungo mouse, *Peromyscus leucopus easti* (C2): Known from Virginia Beach, this species may be found in areas on or around the installation.

Fish

Shortnose sturgeon, *Acipenser brevirostrum* (FE, SE): Found in coastal waters along the Atlantic, this fish is a rare visitor in waters around the installation.

Endangered Species Summary

The piping plover and peregrine falcon may be seen as transients on the installation. The Bachman's warbler, another federally listed species, has historically been reported from the area, although it may be extinct. Brown pelicans may also be seen on the shore of the installation. Sea turtles, as well as the shortnose sturgeon may be seen on coastal waters of the installation. The loggerhead turtle may nest in the vicinity. The state listed chicken turtle may be seen on inland waters of the installation. The pungo mouse, various shorebirds and terns, as well as the sedge wren and the Henslow's sparrow are state listed species that may occur on the installation.

SUNNY POINT MILITARY TERMINAL MTMC 11,274 Acres North Carolina

Main County: Brunswick

Edge County: New Hanover

Surrounding Counties: Columbus, Pender

VERTEBRATES

Birds

Bachman's sparrow, *Aimophila aestivalis* (C2): Found in open pinewoods and old fields, this species is listed as occurring in Brunswick County, most likely as a year-round resident. The sparrow generally inhabits open stands of longleaf pine where red-cockaded woodpeckers are found.

American ivory-billed woodpecker, *Campephilus principalis principalis* (FE): Although this species was formerly found throughout eastern South Carolina and southeastern North Carolina, its present distribution is unknown, and it is thought to be extinct.

Piping plover, *Charadrius melanotos* (FE, ST): Known in Brunswick and Pender Counties, the plover also may be found in adjacent New Hanover County. There is an extensive shorebird foraging area--mud flats found along the northern portion of the Smith Island Estuaries (across the Cape Fear River from the installation). The plovers are probably found here.

Kirtland's warbler, *Dendroica kirtlandii* (FE, SE): This species was recorded on fall migration in Pender County. Since the birds migrate along the coast, its occurrence on the installation is possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This species is an uncommon fall transient and rare winter resident along the coast. It has not been known to breed in the area.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This species is an uncommon fall transient and rare winter resident along the coast, making its occurrence on the installation possible. It has not been known to breed in the area.

Southern bald eagle, *Haliaeetus leucocephalus leucocephalus* (FE, SE): Breeding is possible and habitat on the installation is suitable. In winter, the northern subspecies *alascanus*, which breeds from Alaska to Quebec, is found throughout the state.

Wood stork, *Mycteria americana* (FE): These birds are known to occur in Brunswick County, primarily as post-breeding visitors at Sunset Beach and Calabash. Since storks can travel up to 128 km to feed, its occurrence on this installation is possible. The birds will forage in shallow ponds, on the shores of deeper fresh water, or other areas where the concentrations of fish is high, such as areas of receding water levels.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE): Colonies have been recorded on the installation.

Roseate tern, *Sterna dougalli dougalli* (FE, SE): A rare transient and occasional breeding species in North Carolina, this species may be seen on the installation as a migrant.

Bachman's warbler, *Vermivora bachmanii* (FE) This bird was once found throughout the southeast, including the area of the installation. Present distribution is unknown, and it is possible that the species is extinct.

Reptiles

American alligator, *Alligator mississippiensis* (FTSA, ST): The alligator was reported in 1978 from Snow's Marsh and Walden Creek.

Loggerhead sea turtle, *Caretta caretta* (FT, SE): Known to occur in New Hanover, Brunswick, and Pender Counties, this species lays its eggs on beaches along the coast, but spends most of the rest of its life on the open ocean. It is fairly common along the Carolina coasts during the late April to mid-November nesting season.

Green turtle, *Chelonia mydas* (FE, ST): This species was formerly common along the coast in North Carolina. It does not nest in the area.

Leatherback turtle, *Dermochelys coriacea* (FE, SE): Although not common along the Carolina coast, there is one nesting record along the North Carolina coast in 1966. This species may be seen within waters around the installation.

Hawksbill turtle, *Eretmochelys imbricata* (FE, SE): Although not common along the Carolina coasts, the occurrence of this species is possible. It is not usually found in water over 20 m deep.

Kemp's (Atlantic) ridley sea turtle, *Lepidochelys kempii* (FE, SE): This species may be found in Brunswick County, although it is usually uncommon along the Carolina shores.

Mammals

Red wolf, *Canis rufus gregoryi* (FE, SE): Although this species is extirpated in North Carolina, the installation is within its historic range. Captive bred wolves have been reintroduced on the Alligator River National Wildlife Refuge in northeastern North Carolina.

Eastern cougar, *Felis concolor cougari* (FE, SE): Although this species is probably extirpated in North Carolina, the installation is within its historic range. Wild populations may still exist, making the occurrence of this species possible.

Rafinesque's big-eared bat, *Plecotus rafinesquii* (C2): An uncommon to rare species, this bat is found along coastal areas in dilapidated buildings, hollow trees, and behind loose bark. Its occurrence on the installation is possible.

West Indian (Florida) manatee, *Trichechus manatus* (FE, SE): The North Carolina coast is the northernmost part of the manatee's summer range. Its occurrence off the coast of the installation is possible.

Amphibians

Carolina gopher frog, *Rana areolata capito* (C2): This species was collected on the installation in 1978 and 1983. It also was found on the Carolina Beach Natural Area in 1979.

Fish

Short-nosed sturgeon, *Acipenser brevirostrum* (FE, SE): This species is found in the Cape Fear River.

INVERTEBRATES

Magnificent ramshorn (Cape Fear ramshorn), *Planorbella (Halisoma) magnificum* (C2, SE): Listed as occurring on the installation, this snail has been found in Greenfield Lake, Wilmington, usually under vegetation. Although it may no longer be present here, the snail was found in Orton Pond in 1986. This pond is adjacent to the terminal. The snail may also be found in larger ponds on the base.

Rare skipper, *Problema bulenta* (C2): Known from New Hanover and Brunswick Counties this butterfly occurs on the installation and is thought to be associated with freshwater marshes.

Endangered Species Summary

The piping plover and red-cockaded woodpecker are federally listed species known to occur on or near the installation. Possible transients include the bald eagle, roseate tern, wood stork, Kirtland's warbler, and peregrine falcons. Manatees and sea turtles may be found in waters near the installation. The magnificent ramshorn is a state listed species on the installation. The Cooper's and sharp-shinned hawks may be transients. The Bachman's sparrow is generally found in pine stands with the red-cockaded woodpecker. Other species of concern known on the installation include the rare skipper, Carolina gopher frog, and Rafinesque's big eared bat.

U.S. MILITARY ACADEMY

USMA

17,036 Acres

New York

Main County: Orange

Edge Counties: Putnam (across Hudson R) Ulster

Surrounding Counties: Dutchess, Rockland, Sullivan, NY; Sussex, Passaic, NJ

VERTEBRATES

Birds

Golden eagle, *Aquila chrysaetos* (SE): A very rare winter visitor, individuals have been observed migrating over the reservation in the fall. Two eagles overwintered at Stilwell Lake in 1980, feeding on deer carcasses.

Red-shouldered hawk, *Buteo lineatus* (ST): An uncommon resident, this bird may breed on the reservation.

Northern harrier, *Circus cyaneus* (ST): This species is known as a common fall migrant over the reservation.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): This species is a rare migrant through the area, although reintroductions have improved the likelihood that a falcon may be encountered.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FT, SE): This species is a rare migrant through the area.

Northern bald eagle, *Haliaeetus leucocephalus alascanus* (FE, SE): A rare winter visitor, up to six eagles have wintered on Iona Island on the Hudson River. Other eagles may be seen migrating on the reservation in August and September.

Migrant loggerhead shrike, *Lanius ludovicianus migrans* (C2, SE): This bird is a rare migrant through the area, and the only habitat available is in the old fields along Smith Clove and Mineral Springs Roads and in the impact area.

Osprey, *Pandion haliaetus* (ST): A regular migrant on the reservation, feeding and resting individuals and pairs have been observed at Round Pond and Wilkens Pond in the spring and fall.

Interior least tern, *Sterna antillarum antillarum* (SE): A rare wanderer, this bird may fly up the Hudson River.

Common tern, *Sterna hirundo* (ST): An occasional migrant, summer observations on the Hudson River are rare to uncommon.

Reptiles

Bog turtle, *Clemmys muhlenbergii* (C2, SE): Former bog turtle sites on Palisades Interstate Park property are less than 1.6 km from West Point. This species has been collected from Popolopen Lake. Some wetlands, particularly the Firebreak #1 Beavers Pond, are suitable habitat.

Timber rattlesnake, *Crotalus horridus* (ST): Known to occur on the reservation, this species is an uncommon resident of the reservation, and a rare resident of the Main Post. It is most frequently encountered in the training area and near Wilkens and Round Ponds. It has been collected from Popolopen Lake.

Eastern mud turtle, *Kinosternum subrubrum* (ST): West Point is on the far northern edge of the species' range. It may occur on the reservation, but would be rare.

Mammals

Mountain lion, *Felis concolor cougari* (FE, SE): Although the lion may be extinct, historically, it was found in this area.

Small-footed bat, *Myotis sublatus leibii* (C2): Although this bat is rare in New York, its occurrence on the reservation is possible. These bats hibernate in caves and roost in trees or other man-made structures in summer.

Indiana bat, *Myotis sodalis* (FE, SE): Bat colonies have been found in the area, and the bat may occur as a transient on the reservation.

Eastern woodrat, *Neotoma floridana magister* (C2, SE): This species has been collected on Popolopen Lake. Active sites also exist at Storm King, 1.6 km north of West Point.

Amphibians

Northern cricket frog, *Acris crepitans crepitans* (ST): Recorded within the range of the reservation, the frog may be found in the area.

Fish

Shortnose sturgeon, *Acipenser brevirostrum* (FE, SE): This fish may be found in the Hudson River adjacent to the reservation.

Endangered Species Summary

The bald eagle is known as a rare winter visitor and the peregrine falcon is a possible migrant. The shortnose sturgeon may be found in the Hudson River. The Indiana and small-footed bats may be seen on the reservation. The northern harrier is a common fall migrant, and the golden eagle is a rare winter visitor. The osprey occurs as a regular migrant and the loggerhead shrike is a rare migrant. The red-shouldered hawk may breed in the area. The bog turtle, timber rattlesnake, and the Eastern woodrat are known to occur around Popolopen Lake. The range of the northern cricket frog includes the reservation.

VOLUNTEER AAP

AMC

6681 Acres Tennessee

Main County: Hamilton

Surrounding Counties: Bledsoe, Bradley, Marion, Meigs, Rhea, Sequatchie, TN; Walker, Dade, Catoosa, GA

VERTEBRATES

Birds

Cooper's hawk, *Accipiter cooperii* (ST/ESD: SE): Although it is rare, this hawk is considered a permanent resident throughout Tennessee and may be found anywhere in the state. It has been recorded in Sequatchie, Marion, and Bledsoe Counties from April through August and Meigs and Bledsoe Counties from September through March. From September through November, additional migrants from the north are present, and the hawk most likely be seen at this time.

Sharp-shinned hawk, *Accipiter striatus* (ST, ESD: SE): An uncommon to rare permanent resident that may be found in any Tennessee county, this hawk has been recorded at various times of the year in Hamilton County. It may be found within the installation.

Bachman's sparrow, *Aimophila aestivalis* (C2, SE, ESD: SE): This species occurs in Hamilton County. It usually inhabits open pastures, thick grass with low trees, and open woodlands. Occurrence on the installation is possible.

Golden eagle, *Aquila chrysaetos* (SE, ESD: ST): An uncommon winter visitor and transient, the eagle was recorded in Hamilton and Marion Counties year round.

Great blue heron, *Ardea herodias* (ESD: ST): An uncommon to rare permanent resident, the herons are more common in eastern Tennessee in the winter months. The great blue has been recorded in Hamilton County year round. These birds require freshwater marsh areas for breeding and feeding.

American bittern, *Botaurus lentiginosus* (ESD: SE): An uncommon permanent resident of low-lying marshy habitats, this species has been recorded in March through September and October through February in Hamilton County. Most bitterns are observed during migration.

Northern harrier, *Circus cyaneus hudsonius* (ST): Throughout the state this bird is an uncommon to rare transient in spring and fall and an uncommon to rare winter visitor. Recorded from August to May in Hamilton County, its occurrence on the installation is possible.

American peregrine falcon, *Falco peregrinus anatum* (FE, SE): An uncommon to rare transient in the spring and fall, an occurrence on the installation is possible. Historical records show the falcon nested in Hamilton County. However, the birds have not nested in Tennessee for 25 years.

*The Ecological Services Division (ESD) of the Tennessee Department of Conservation maintains a separate listing of threatened and endangered species that may differ from the state list maintained by the Tennessee Wildlife Resources Agency.

Arctic peregrine falcon, *Falco peregrinus tundrius* (FE, SE): An uncommon to rare transient in the spring and fall, an occurrence on the installation is possible.

Common moorhen, *Gallinula chloropus* (SA, ESD: ST): An uncommon transient during spring and fall migrations, the moorhen has been recorded in Hamilton County from March through September. Occurrence in marsh areas on or around the installation is possible.

Sandhill crane, *Grus canadensis* (ESD: ST): An uncommon to local transient in the spring and fall, the birds are usually seen in flight or for brief periods as they stop to spend the night, to feed, or to rest. Cranes have been recorded in Hamilton County from March through June and August through December.

Southern bald eagle, *Haliaeetus leucocephalus (leucocephalus)* (FE, SE/ESD: SE): A wintering species, the eagle is usually seen from August to May and is known from Hamilton, Marion, Meigs, and Rhea Counties. Occurrence of these birds migrating or foraging near the installation is possible. Some of the wintering birds may be of the northern subspecies *alascanus*. No eagles have nested in Tennessee since 1958.

Least bittern, *Ixobrychus exilis* (ESD: ST): An uncommon to rare transient across the state from April to May and September to October, bitterns inhabit freshwater marshes and pond edges. These birds have been recorded as nesting in Hamilton County from April through mid-October. The occurrence of this species on the installation is possible.

Black-crowned night heron, *Nycticorax nycticorax* (ST, ESD: ST): An uncommon to rare permanent resident throughout Tennessee, this night heron was recorded in Hamilton County. These birds will nest in pine stands and are usually found in marshes, swamps, creeks, and wooded streams.

Yellow-crowned night heron, *Nycticorax violaceus* (ESD: ST): One pair nested from 1973 to 1977, in an area less than 8 km from the installation. The herons are usually found in forested areas near swamps or sloughs.

Osprey, *Pandion haliaetus* (SE, ESD: ST): A rare and local summer resident in Tennessee, the osprey was recorded in Hamilton County from April through October. The osprey also nested in Hamilton. In the spring and fall it is a common migrant. Although it is a rare wintering species, it has been recorded in Meigs County. Inhabiting areas around water, ospreys are found around streams, lakes, and ponds. Its occurrence on or around the installation is likely.

Red-cockaded woodpecker, *Picoides borealis* (FE, SE, ESD: SE): Historical records show this woodpecker occurred in Hamilton County, its range including the installation. This bird requires mature pine stands for nesting.

King rail, *Rallus elegans* (ESD: SE): An uncommon to rare transient and an uncommon to rare summer resident, the rail is mainly found in marshy habitats. There is a nesting record for this species in Hamilton County. This bird has also been recorded in the county from April through March.

Virginia rail, *Rallus limicola* (ESD: SE): An uncommon to rare transient and a rare winter visitor across Tennessee, the rail is also a rare and local summer resident. It has been recorded in Hamilton County year round. There is also a nesting record in Hamilton County. The birds breed in freshwater marshes and marshy fields but are sometimes found in drier brushy fields during migration.

Bank swallow, *Riparia riparia* (ESD: ST): An uncommon to rare local summer resident and breeding bird across Tennessee, the swallow has been recorded April through October in Hamilton County. Swallows are found near water during migration and while nesting.

Interior least tern, *Sterna antillarum atnallassos* (FE, SE, ESD: SE): Although this species is an uncommon to rare transient in areas away from the Mississippi River, its occurrence on the installation is possible. In Tennessee it is considered an uncommon to rare transient and wanderer. It has been recorded in Hamilton County from late March through late September.

Appalachian Bewick's wren, *Thryomanes bewickii altus* (C1, ST, ESD: ST): A permanent resident across the state, this bird was recorded March through February in Hamilton County. The birds are usually found in thickets, brush piles, fence and hedgerows, and other areas with second growth.

Common barn owl, *Tyto alba* (ESD: SE): A rare to very uncommon resident in Tennessee, the owls are found in open rural areas as well as towns and cities. This species has been recorded in Hamilton County as a permanent resident and also as nesting. Occurrence on the installation is possible.

Bachman's warbler, *Vermivora bachmani* (FE, ESD: SP): This bird is considered the rarest warbler in North America. Although it's occurrence on the installation is not likely, historically it was probably a migrant in the state. It bred in states surrounding Tennessee.

Mammals

Red wolf, *Canis rufus gregoryi* (FE): Although this species is extirpated from Tennessee, historically it occurred within the area.

Eastern cougar, *Felis concolor cougari* (FE, SE, ESD: SE): This species could possibly occur in Marion County; the installation is within the southern part of its historical range. Wild populations still exist, making its occurrence possible.

Florida panther, *Felis concolor coryi* (FE, SE, ESD: SE): Although this species is very rare, the installation is within the northern part of its historical range. Wild populations still exist, making its occurrence possible.

Gray bat, *Myotis grisescens* (FE, SE, ESD: SE): Known to occur in Bledsoe, Marion, Meigs, Rhea, and Sequatchie Counties, these bats may be found foraging on the installation. Summer roosts are known to occur in Nickajack Cave.

Eastern small-footed bat, *Myotis subulatus leibii* (C2): Recorded in Marion County, this species may be seen on the installation foraging or as a migrant.

Indiana bat, *Myotis sodalis* (FE, SE, ESD: SE): Possibly occurs in all main and surrounding counties, these bats may be seen foraging in riparian areas around the installation.

Eastern woodrat, *Neotoma floridana magister* (C2): Little is known of its existence and/or abundance, but the preferred habitat is rocky, wooded areas and swampy or open areas. This species is listed as occurring in Hamilton County. Occurrence on the installation is possible.

Amphibians

Hellbender, *Cryptobranchus alleganiensis* (C2): The installation is within the range of the hellbender.

Tennessee cave salamander, *Gyrinophilus palleucus* (C2, ST, ESD: ST): Listed as occurring in Hamilton County, this species may be found in caves on or around the installation.

Fish

Yellowfin madtom, *Noturus flavipinnis* (FT, SE, ESD: SE): Although extirpated from this location, this species historically was found in Chickamauga Creek near Chattanooga. It is presumed extirpated from this area because of impoundments and pollution.

Snail darter, *Percina tanasi* (FT, ST, ESD: SE): This species is known from Hamilton, Bradley, Marion, Meigs, and Rhea Counties. Several records list the darter as occurring in South Chickamauga Creek, in an area less than 12.8 km from the installation.

INVERTEBRATES

Mollusks

Eastern fanshell, *Cyprogenia stegaria* (FPE): This species was occasionally collected in the river and may still be present in waters around the installation.

Pearly dromedary mussel, *Dromas dromas* (FE, SE, ESD: SE): This mollusk is known from Meigs and Rhea Counties, and is listed as possibly occurring in Hamilton County. Historically recorded in the Tennessee River from Knox County, Tennessee down to Lauderdale County, Alabama, the occurrence of this species in waters around the installation is possible.

Tubercled-blossom pearly mussel, *Epioblasma (Dysnomia) torulosa torulosa* (FE): Listed in Hamilton County. Historically this species was found in the Tennessee River from Knox County to Muscle Shoals, Alabama, but it is now thought to be extinct.

Epioblasma (=Dysnomia) torulosa (SE, ESD: SE): See *E. torulosa torulosa* above.

Pink mucket pearly mussel, *Lampsilis orbiculata* (= *abrupta*) (FE, SE): A Tennessee River species historically collected from Marion County, Tennessee to the Muscle Shoals, Alabama, it is listed as occurring in Hamilton, Meigs, and Rhea Counties.

Orange-foot pimpleback, *Plethobasus cooperianus* (= *striatus*) (FE, SE, ESD: SE): In Hamilton County, this species was collected in the Tennessee River below the southern railroad bridge, 300 m below Chickamauga Dam. This area is less than 8 km from the installation.

Pale lilliput pearly mussel, *Toxoplasma cylindrella* (FE, SE, ESD: SE): Found in small rivers and streams that are tributaries of the Tennessee river, it may still be present in waters around the installation.

Cumberland monkeyface, *Quadrula intermedia* (FE, SE, ESD: SE): This species has been recorded in the Tennessee River. Its occurrence in waters around the installation is possible.

Rough pigtoe, *Pleurobema plenum* (FE, SE, ESD: SE): Formerly found in the Tennessee River from Knoxville, Tennessee to northern Alabama this species was collected in Hamilton County. Because of the alteration of its habitat, the occurrence of this species in waters around the installation is unlikely.

Other

Chickamauga crayfish, *Cambarus extraneus* (C2, ESD: ST): Listed as occurring in south Chickamauga Creek, Hamilton County, about 1.6 km downstream from U. S. 11-64. This area is less than 12.8 km from the installation.

Spiny river snail, *Io fluvialis* (C1, ESD: SE): Historically this species was collected from the Tennessee River around Chattanooga, although it has not been collected there since 1970.

Onyx rock snail, *Leptoxis praerosa* (C2, SE, ESD: SE): Historically this species was found throughout the Tennessee River. Alterations of the river, however, have destroyed prime habitat.

Verrucose file snail, *Lithasia verrucosa* (C2, ESD: SE): Listed as occurring in Hamilton County, this species was historically found in the Tennessee River from Knox County to Chattanooga Tennessee.

Endangered Species Summary

Gray and Indiana bats and the bald eagle are the only federally endangered species likely to be found in the area. Bachman's sparrow, Bewick's wren, northern harrier, Cooper's and sharp-shinned hawks, night herons, osprey, and river otters are state listed species likely to be found. Fish and mollusk species listed may be found in waters in the area.

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- 16 U.S. Code § 1536 (b)(4)(B)
- 16 U.S. Code § 1536 (a)(3)
- 16 U.S. Code § 1538 (a) (1)(B),(C)
- 16 U.S. Code § 1539 (a)(1)(2)(A)
- 16 U.S. Code § 1539 (a)(1)(2)(B)
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- 50 (CFR) § 450-453
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APPENDIX A: ENDANGERED SPECIES LISTING SORTED BY INSTALLATION AND STATUS

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Aberdeen PG	AMC	Amphibian	Hellbender	C2	SE	Possible R
Aberdeen PG	AMC	Reptile	Bog turtle	C2		Current UC
Aberdeen PG	AMC	Mammal	Eastern small-footed bat	C2		Possible R
Aberdeen PG	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible N
Aberdeen PG	AMC	Bird	American peregrine falcon	FE		Possible R
Aberdeen PG	AMC	Bird	Kirtland's warbler	FE		Possible R
Aberdeen PG	AMC	Fish	Shortnose sturgeon	FE		Possible R
Aberdeen PG	AMC	Fish	Maryland darter	FE		Current
Aberdeen PG	AMC	Bird	Bald eagle	FE		Current
Aberdeen PG	AMC	Bird	Arctic peregrine falcon	FT		Possible R
Aberdeen PG	AMC	Reptile	Atlantic loggerhead turtle	FT		Possible R
Anniston AD	AMC	Bird	Appalachian Bewick's wren	C1	ST	Adjacent Possible R
Anniston AD	AMC	Fish	Blue shiner	C2		Possible N
Anniston AD	AMC	Mollusk	Alabama live-bearing snail	C2		Possible NH
Anniston AD	AMC	Fish	Coldwater darter	C2		Possible N
Anniston AD	AMC	Mollusk	Fine-lined pocketbook	C2		Possible NH
Anniston AD	AMC	Mollusk	Sculpin snail	C2		Possible N
Anniston AD	AMC	Mollusk	Upland combshell	C2		Possible NH
Anniston AD	AMC	Mammal	Gray bat	FE	M	Possible HR
Anniston AD	AMC	Bird	Red-cockaded woodpecker	FE		Possible N
Anniston AD	AMC	Mammal	Florida panther	FE		Extirpated HR
Anniston AD	AMC	Mammal	Indiana bat	FE		Extirpated HR
Anniston AD	AMC	Mammal	Red wolf	FE		Extirpated HR
Anniston AD	AMC	Mollusk	Judge Tait's mussel	FE		Possible NH
Anniston AD	AMC	Bird	American peregrine falcon	FE		Unlikely R
Anniston AD	AMC	Bird	Bald eagle	FE	T	Possible N
Anniston AD	AMC	Bird	Bachman's warbler	FE	T	Extirpated HR
Anniston AD	AMC	Bird	Arctic peregrine falcon	FT		Unlikely R
Anniston AD	AMC	Fish	Pygmy sculpin	FT		Possible N
Bager AAP	AMC	Mollusk	Winged mapleleaf	3C	SE	Possible N
Bager AAP	AMC	Fish	Paddlefish	3C	ST	Unlikely N
Bager AAP	AMC	Fish	Lake sturgeon	C2		Unlikely
Bager AAP	AMC	Mollusk	Salamander mussel	C2	ST	Possible N
Bager AAP	AMC	Reptile	Eastern massasauga	C2	SE	Possible N
Bager AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	B Possible HR
Bager AAP	AMC	Fish	Blue sucker	C2		Possible N
Bager AAP	AMC	Bird	Piping plover	FE		Possible N
Bager AAP	AMC	Bird	American peregrine falcon	FE		Possible N
Bager AAP	AMC	Bird	Bald eagle	FT		Possible N
Bager AAP	AMC	Bird	Arctic peregrine falcon	FT		Possible R
Bager AAP	AMC	Reptile	Western ribbon snake	FE		Possible R
Bager AAP	AMC	Insect	Silphium borer moth	SE		Possible N
Bager AAP	AMC	Bird	Osprey	SE		Possible R
Bager AAP	AMC	Bird	Caspian tern	SE		Possible R
Bager AAP	AMC	Bird	Barn owl	SE		Possible N
Bager AAP	AMC	Fish	Goldeye	SE		Possible N
Bager AAP	AMC	Bird	Worm-eating warbler	SE		Possible R
Bager AAP	AMC	Reptile	Northern ribbon snake	SE		Possible N
Bager AAP	AM	Bird	Forster's tern	SE		Possible R
Bager AAP	AMC	Reptile	Western slender glass lizard	SE		Possible N
Bager AAP	AMC	Bird	Yellow-throated warbler	SE		Possible N
Bager AAP	AMC	Reptile	Western box turtle	SE		Possible N
Bager AAP	AMC	Amphibian	Blanchard's cricket frog	SE		Possible N
Bager AAP	AMC	Bird	Cerulean warbler	ST		Possible R
Bager AAP	AMC	Mollusk	Buckhorn	ST		Possible N
Bager AAP	AMC	Fish	Speckled chub	ST		Possible N
Bager AAP	AMC	Bird	Acadian flycatcher	ST		Possible R
Bager AAP	AMC	Mollusk	Rock pocketbook	ST		Possible N
Bager AAP	AMC	Reptile	Wood turtle	ST		Possible N
Bager AAP	AMC	Bird	Red-shouldered hawk	ST		Possible N
Bager AAP	AMC	Reptile	Blanding's turtle	ST		Possible N
Bager AAP	AMC	Bird	Great egret	ST		Possible N
Bager AAP	AMC	Bird	Kentucky warbler	ST		Possible R
Bager AAP	AMC	Fish	Redfin shiner	ST		Unlikely N
Camp Atterbury	NGB	Bird	Bachman's sparrow	C2	SE	Possible HR
Camp Atterbury	NGB	Bird	Migrant loggerhead shrike	C2		Possible N
Camp Atterbury	NGB	Fish	Eastern sand darter	C2		Possible N
Camp Atterbury	NGB	Reptile	Kirtland's snake	C2		Possible HR
Camp Atterbury	NGB	Mammal	Indiana bat	FE		Possible N
Camp Atterbury	NGB	Mammal	Gray bat	FE	PB	Possible N
Camp Atterbury	NGB	Bird	American peregrine falcon	FE		Current
Camp Atterbury	NGB	Bird	Bald eagle	FE		Current
Camp Atterbury	NGB	Bird	Yellow-crowned night heron	SE		Possible N
Camp Atterbury	NGB	Mammal	Evening bat	SE		Possible N
Camp Atterbury	NGB	Bird	Black-crowned night heron	SE		Current
Camp Atterbury	NGB	Mammal	Bobcat	SE	YR	Possible N
Camp Atterbury	NGB	Bird	American bittern	SE		Possible R
Camp Atterbury	NGB	Bird	Great egret	SE	PB	Possible R
Camp Atterbury	NGB	Bird	Golden-winged warbler	SE	B	Possible R

Appendix A (continued)

Installation	MACOM	TAXON	Species	Status	Residency	Occurrence	
Camp Atterbury	NGB	Bird	King rail	SE	B	Current	
Camp Atterbury	NGB	Bird	Barn owl	SE	YR	Possible R	
Camp Atterbury	NGB	Bird	Osprey	SE	W	Possible R	
Camp Atterbury	NGB	Bird	Upland sandpiper	SE	B	Possible R	
Camp Atterbury	NGB	Mollusk	Pink papershell mussel	SE	YR	Possible N	
Camp Atterbury	NGB	Bird	Bewick's wren	SE	B	Possible R	
Camp Atterbury	NGB	Mammal	Badger	ST	YR	Current	
Camp Atterbury	NGB	Bird	Sedge wren	ST	B	Possible R	
Camp Atterbury	NGB	Bird	Henslow's sparrow	ST	B	Possible R	
Camp Atterbury	NGB	Bird	Northern harrier	ST	YR	Current	
Camp Blanding	NGB	Mammal	Sherman's fox squirrel	C2	YR	Current	
Camp Blanding	NGB	Mammal	Florida black bear	C2	ST	T	Possible N
Camp Blanding	NGB	Amphibian	Gopher frog	C2	YR	Current	
Camp Blanding	NGB	Bird	Southeastern American kestrel	C2	ST	YR	Current
Camp Blanding	NGB	Reptile	Gopher tortoise	C2	YR	Current	
Camp Blanding	NGB	Bird	Bald eagle	FE	B, F	Possible N	
Camp Blanding	NGB	Mammal	Red wolf	FE	YR	Extirpated HR	
Camp Blanding	NGB	Bird	American peregrine falcon	FE	W	Possible R	
Camp Blanding	NGB	Bird	Bachman's warbler	FE	W	Extirpated HR	
Camp Blanding	NGB	Bird	Wood stork	FE	YR	Possible N	
Camp Blanding	NGB	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Camp Blanding	NGB	Bird	Red-cockaded woodpecker	FE	YR	Current	
Camp Blanding	NGB	Mammal	Florida panther	FE	YR	Unlikely HR	
Camp Blanding	NGB	Bird	Arctic peregrine falcon	FT	W	Possible R	
Camp Blanding	NGB	Bird	Florida scrub jay	FT	YR	Current	
Camp Blanding	NGB	Reptile	Eastern indigo snake	FT	YR	Likely N	
Camp Blanding	NGB	Reptile	American alligator	FTSA	YR	Likely R	
Camp Edwards	NGB	Bird	Migrant loggerhead shrike	C2	F, M	Possible R	
Camp Edwards	NGB	Mammal	Eastern small-footed bat	C2	YR	Possible R	
Camp Edwards	NGB	Mammal	New England cottontail	C2	YR	Possible N	
Camp Edwards	NGB	Bird	American peregrine falcon	FE	B*	Possible R	
Camp Edwards	NGB	Bird	Bald eagle	FE	F	Possible N	
Camp Edwards	NGB	Bird	Roseate tern	FE	F, M	Possible R	
Camp Edwards	NGB	Fish	Shortnose sturgeon	FE	Adjacent	Possible R	
Camp Edwards	NGB	Bird	Piping plover	FT	B	Possible N	
Camp Edwards	NGB	Bird	Arctic peregrine falcon	FT	M	Possible R	
Camp Edwards	NGB	Bird	Henslow's sparrow	SE	B	Possible R	
Camp Edwards	NGB	Bird	Short-eared owl	SE	B	Possible N	
Camp Edwards	NGB	Bird	Upland sandpiper	SE	B	Current	
Camp Edwards	NGB	Bird	Northern harrier	ST	YR	Likely N	
Camp Edwards	NGB	Amphibian	Eastern spadefoot toad	ST	YR	Possible N	
Camp Edwards	NGB	Bird	King rail	ST	YR	Possible R	
Camp Edwards	NGB	Insect	Gerhard's underwing moth	ST	Adjacent	Current	
Camp Edwards	NGB	Fish	American brook lamprey	ST	YR	Possible R	
Camp Edwards	NGB	Amphibian	Marbled salamander	ST	YR	Possible N	
Camp Edwards	NGB	Bird	Northern parula	ST	B	Possible R	
Camp Edwards	NGB	Bird	Pied-billed grebe	ST	B	Possible R	
Camp Grayling	NGB	Bird	Migrant loggerhead shrike	C2	B	Unlikely N	
Camp Grayling	NGB	Bird	American peregrine falcon	FE	T	Possible R	
Camp Grayling	NGB	Bird	Kirtland's warbler	FE	B	Current	
Camp Grayling	NGB	Bird	Arctic peregrine falcon	FT	T	Possible R	
Camp Grayling	NGB	Bird	Bald eagle	FT	YR	Current	
Camp Grayling	NGB	Bird	King rail	SE	B	Possible R	
Camp Grayling	NGB	Bird	Short-eared owl	SE	B	Possible R	
Camp Grayling	NGB	Bird	Merlin	ST	T	Possible R	
Camp Grayling	NGB	Mollusk	Deep water pond snail	ST	YR	Possible N	
Camp Grayling	NGB	Fish	Cisco	ST	YR	Possible R	
Camp Grayling	NGB	Bird	Red-shouldered hawk	ST	B	Possible N	
Camp Grayling	NGB	Bird	Common loon	ST	B, F	Possible N	
Camp Grayling	NGB	Bird	Osprey	ST	B	Possible N	
Camp Santiago	NGB	Bird	Yellow-shouldered blackbird	FE	YR	Possible N	
Camp Santiago	NGB	Bird	American peregrine falcon	FE	W	Possible N	
Camp Santiago	NGB	Reptile	Puerto Rican boa	FE	YR	Current	
Camp Santiago	NGB	Reptile	Golden coqui	FE	YR	Possible N	
Camp Santiago	NGB	Bird	Brown pelican	FE	T	Possible N	
Camp Santiago	NGB	Bird	Puerto Rican plain pigeon	FE	YR	Possible N	
Camp Santiago	NGB	Reptile	Puerto Rican crested toad	FT	YR	Possible NH	
Camp Santiago	NGB	Bird	Piping plover	FT	T	Current	
Camp Santiago	NGB	Bird	Roseate tern	FT	B	Possible N	
Camp Santiago	NGB	Bird	Arctic peregrine falcon	FT	W	Possible N	
Camp Shelby	NGB	Reptile	Black pine snake	C2	SE	YR	Current
Camp Shelby	NGB	Bird	Bachman's sparrow	C2	YR	Possible N	
Camp Shelby	NGB	Bird	American peregrine falcon	FE	M	Possible R	
Camp Shelby	NGB	Mammal	Red wolf	FE	YR	Extirpated HR	
Camp Shelby	NGB	Mammal	Florida panther	FE	YR	Unlikely HR	
Camp Shelby	NGB	Bird	Red-cockaded woodpecker	FE	YR	Current	
Camp Shelby	NGB	Reptile	Eastern indigo snake	FT	YR	Possible R	
Camp Shelby	NGB	Reptile	Gopher tortoise	FT	YR	Current	
Camp Shelby	NGB	Reptile	American alligator	FTSA	YR	Possible N	
Fort Belvoir	MDW	Mammal	Southern pygmy shrew	C2	SE	YR	Possible HR
Fort Belvoir	MDW	Bird	Migrant loggerhead shrike	C2	SE	B	Possible NH
Fort Belvoir	MDW	Bird	Bald eagle	FE	F	Possible N	
Fort Belvoir	MDW	Bird	American peregrine falcon	FE	M	Possible R	
Fort Belvoir	MDW	Bird	Bachman's warbler	FE	T	Extirpated HR	
Fort Belvoir	MDW	Bird	Yellow-crowned night heron	RSE	B	Possible R	

Appendix A (continued)

Installation	MACOM	TAXON	Species	Status	Residency	Occurrence
Fort Belvoir	MOW	Bird	Northern harrier	RSE	M	Possible R
Fort Belvoir	MOW	Reptile	Wood turtle	RSE	YR	Current
Fort Belvoir	MOW	Bird	Henslow's sparrow	RSE	B	Possible R
Fort Benning	TRADOC	Bird	Appalachian Bewick's wren	C1	ST	Possible R
Fort Benning	TRADOC	Mollusk	Shiny-rayed pocketbook	C2	YR	Possible N
Fort Benning	TRADOC	Mollusk	Albany snail	C2	YR	Possible N
Fort Benning	TRADOC	Fish	Bluestripe shiner	C2	YR	Possible R
Fort Benning	TRADOC	Mollusk	Oval pigtoe	C2	YR	Possible N
Fort Benning	TRADOC	Mollusk	Lined pocketbook	C2	YR	Possible N
Fort Benning	TRADOC	Bird	Bald eagle	FE	F	Possible R
Fort Benning	TRADOC	Bird	American peregrine falcon	FE	M	Possible R
Fort Benning	TRADOC	Reptile	Gopher tortoise	FE	YR	Current
Fort Benning	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Current
Fort Benning	TRADOC	Mammal	Eastern cougar	FE	T	Unlikely HR
Fort Benning	TRADOC	Mammal	Indiana bat	FE	F, M	Possible R
Fort Benning	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR
Fort Benning	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Benning	TRADOC	Bird	Wood stork	FE	PB	Possible R
Fort Benning	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible R
Fort Bragg	FORSCOM	Reptile	American alligator	FTSA	YR	Current
Fort Bragg	FORSCOM	Bird	Bachman's sparrow	C2	ST	YR
Fort Bragg	FORSCOM	Mollusk	Cape Fear spike pearly mussel	C2	ST	Possible N
Fort Bragg	FORSCOM	Fish	Sandhills chub	C2	YR	Possible N
Fort Bragg	FORSCOM	Bird	Red-cockaded woodpecker	FE	YR	Current
Fort Bragg	FORSCOM	Bird	Kirtland's warbler	FE	M	Possible R
Fort Bragg	FORSCOM	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Bragg	FORSCOM	Bird	Bald eagle	FE	YR	Possible R
Fort Bragg	FORSCOM	Bird	American peregrine falcon	FE	W	Possible R
Fort Bragg	FORSCOM	Bird	Bachman's warbler	FE	B	Extirpated HR
Fort Bragg	FORSCOM	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Bragg	FORSCOM	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR
Fort Bragg	FORSCOM	Bird	Arctic peregrine falcon	FT	W	Possible R
Fort Bragg	FORSCOM	Reptile	American alligator	FTSA	YR	Current
Fort Campbell	FORSCOM	Bird	Appalachian Bewick's wren	C1	ST	YR
Fort Campbell	FORSCOM	Mollusk	Cumberland combshell	C2	SE	Possible NH
Fort Campbell	FORSCOM	Bird	Migrant loggerhead shrike	C2	YR	Possible R
Fort Campbell	FORSCOM	Mammal	Eastern small-footed bat	C2	YR	Possible R
Fort Campbell	FORSCOM	Mollusk	Rugged river snail	C2	SE	Possible NH
Fort Campbell	FORSCOM	Mollusk	Armored rocksnail	C2	YR	Possible NH
Fort Campbell	FORSCOM	Mammal	Southern pygmy shrew	C2	YR	Possible R
Fort Campbell	FORSCOM	Reptile	Northern pine snake	C2	ST	Possible R
Fort Campbell	FORSCOM	Reptile	Copperbelly water snake	C2	YR	Possible N
Fort Campbell	FORSCOM	Reptile	Alligator snapping turtle	C2	ST	Possible N
Fort Campbell	FORSCOM	Fish	Blue sucker	C2	SE	Adjacent B
Fort Campbell	FORSCOM	Bird	Bachman's sparrow	C2	SE	Possible N
Fort Campbell	FORSCOM	Mammal	Rafinesque's big-eared bat	C2	ST	Possible R
Fort Campbell	FORSCOM	Mammal	Southeastern bat	C2	F	Possible R
Fort Campbell	FORSCOM	Amphibian	Hellbender	C2	YR	Possible N
Fort Campbell	FORSCOM	Fish	Lake sturgeon	C2	SE	Adjacent Possible N
Fort Campbell	FORSCOM	Mammal	Eastern cougar	FE	YR	Possible HR
Fort Campbell	FORSCOM	Bird	Interior least tern	FE	T	Possible R
Fort Campbell	FORSCOM	Mollusk	Rough pigtoe	FE	YR	Possible NH
Fort Campbell	FORSCOM	Bird	Bachman's warbler	FE	B	Extirpated HR
Fort Campbell	FORSCOM	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Campbell	FORSCOM	Mammal	Indiana bat	FE	B, F, M	Likely N
Fort Campbell	FORSCOM	Mollusk	Tan ruffleshell	FE	YR	Unlikely NH
Fort Campbell	FORSCOM	Mollusk	Golf-stick pearly mussel	FE	YR	Unlikely NH
Fort Campbell	FORSCOM	Mollusk	Dromedary pearly mussel	FE	YR	Unlikely NH
Fort Campbell	FORSCOM	Mollusk	Orange-footed pearly mussel	FE	YR	Possible NH
Fort Campbell	FORSCOM	Bird	Bald eagle	FE	YR	Likely N
Fort Campbell	FORSCOM	Mollusk	Pink mucket pearly mussel	FE	YR	Possible NH
Fort Campbell	FORSCOM	Bird	American peregrine falcon	FE	T	Possible R
Fort Campbell	FORSCOM	Mammal	Gray bat	FE	F	Likely N
Fort Campbell	FORSCOM	Mollusk	Yellow-blossom pearly mussel	FE	YR	Possible NH
Fort Campbell	FORSCOM	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR
Fort Campbell	FORSCOM	Bird	Arctic peregrine falcon	FT	T	Possible R
Fort Campbell	FORSCOM	Bird	Piping plover	FT	T	Possible R
Fort Campbell	FORSCOM	Mollusk	Eastern fanshell	PE	YR	Possible NH
Fort Campbell	FORSCOM	Mollusk	Purple catspaw pearly mussel	PE	YR	Possible NH
Fort Campbell	FORSCOM	Bird	Upland sandpiper	SE	T	Possible R
Fort Campbell	FORSCOM	Bird	American bittern	SE	YR	Possible R
Fort Campbell	FORSCOM	Bird	Blue-winged teal	SE	M	Possible R
Fort Campbell	FORSCOM	Bird	Common moorhen	SE	B	Possible R
Fort Campbell	FORSCOM	Bird	King rail	SE	YR	Possible R
Fort Campbell	FORSCOM	Bird	Barn owl	SE	YR	Possible R
Fort Campbell	FORSCOM	Bird	Lark sparrow	SE	B	Possible N
Fort Campbell	FORSCOM	Bird	Spotted sandpiper	SE	YR	Possible N
Fort Campbell	FORSCOM	Bird	Least bittern	SE	T	Possible N
Fort Campbell	FORSCOM	Bird	Virginia rail	SE	M	Possible R
Fort Campbell	FORSCOM	Bird	Little blue heron	SE	PB, F	Possible N
Fort Campbell	FORSCOM	Bird	Sharp-shinned hawk	SE	YR	Possible N
Fort Campbell	FORSCOM	Bird	Osprey	SE	M	Possible N
Fort Campbell	FORSCOM	Bird	Golden eagle	SE	W	Possible R
Fort Campbell	FORSCOM	Bird	Grasshopper sparrow	SE	B	Possible N
Fort Campbell	FORSCOM	Bird	Great egret	SE	B, PB	Possible N
Fort Campbell	FORSCOM	Bird	Double-crested cormorant	SE	W	Possible R

Appendix A (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence	
Fort Campbell	FORSCOM	Bird	Hooded merganser	SE	YR	Possible N	
Fort Campbell	FORSCOM	Mammal	Evening bat	SE	B	Possible R	
Fort Campbell	FORSCOM	Fish	Smallscale darter	SE	YR	Possible N	
Fort Campbell	FORSCOM	Bird	Cooper's hawk	SE	YR	Possible N	
Fort Campbell	FORSCOM	Bird	Black-crowned night heron	SE	PB, F	Possible N	
Fort Campbell	FORSCOM	Fish	Slender madtom	SE	YR	Possible N	
Fort Campbell	FORSCOM	Bird	Pied-billed grebe	SE	YR	Possible R	
Fort Campbell	FORSCOM	Bird	American coot	SE	W	Possible N	
Fort Campbell	FORSCOM	Bird	Yellow-crowned night heron	ST	PB, F	Possible N	
Fort Campbell	FORSCOM	Bird	Northern harrier	ST	W	Possible N	
Fort Campbell	FORSCOM	Reptile	Western pygmy rattlesnake	ST	YR	Possible R	
Fort Campbell	FORSCOM	Amphibian	Bird-voiced tree frog	ST	YR	Possible R	
Fort Campbell	FORSCOM	Bird	Great blue heron	ST	YR	Possible R	
Fort Campbell	FCRSOM	Bird	Bank swallow	ST	B	Possible N	
Fort Campbell	FORSCOM	Mammal	River otter	ST	YR	Possible R	
Fort Devens	FORSCOM	Mammal	New England cottontail	C2	YR	Possible R	
Fort Devens	FORSCOM	Mammal	Eastern small-footed bat	C2	F, M	Possible R	
Fort Devens	FORSCOM	Mammal	Eastern cougar	FE	YR	Extirpated HR	
Fort Devens	FORSCOM	Bird	American peregrine falcon	FE	M	Possible R	
Fort Devens	FORSCOM	Mammal	Indiana bat	FE	F, M	Possible R	
Fort Devens	FORSCOM	Bird	Bald eagle	FE	T	Possible N	
Fort Devens	FORSCOM	Bird	Arctic peregrine falcon	FT	M	Possible R	
Fort Devens	FORSCOM	Bird	Henslow's sparrow	SE	B	Possible R	
Fort Devens	FORSCOM	Bird	Upland sandpiper	SE	B	Current	
Fort Devens	FORSCOM	Bird	Pied-billed grebe	ST	B	Possible N	
Fort Devens	FORSCOM	Bird	Northern harrier	ST	T	Possible R	
Fort Devens	FORSCOM	Reptile	Blanding's turtle	ST	YR	Possible N	
Fort Devens	FORSCOM	Amphibian	Marbled salamander	ST	YR	Possible R	
Fort Devens	FORSCOM	Bird	Least bittern	ST	B	Possible N	
Fort Dix	TRADOC	Amphibian	Pine barrens tree frog	3C	SE	YR	Possible N
Fort Dix	TRADOC	Insect	Lemmer's pinnion moth	C2		Possible R	
Fort Dix	TRADOC	Mammal	Eastern small-footed bat	C2	T	Possible HR	
Fort Dix	TRADOC	Reptile	Bog turtle	C2	SE	YR	Possible N
Fort Dix	TRADOC	Insect	Daeke's pyralid moth	C2		Possible N	
Fort Dix	TRADOC	Mammal	New England cottontail	C2	YR	Possible R	
Fort Dix	TRADOC	Bird	Cooper's hawk	C2	SE	W	Possible N
Fort Dix	TRADOC	Insect	Bucholizi's dart moth	C2		Possible N	
Fort Dix	TRADOC	Bird	Migrant loggerhead shrike	C2	SE	W	Possible N
Fort Dix	TRADOC	Reptile	Northern pine snake	C2	ST	YR	Possible N
Fort Dix	TRADOC	Insect	Barrens blue damselfly	C2		Possible N	
Fort Dix	TRADOC	Bird	American peregrine falcon	FE	YR	Possible N	
Fort Dix	TRADOC	Mammal	Mountain lion	FE	YR	Extirpated HR	
Fort Dix	TRADOC	Bird	Piping plover	FT	T	Possible N	
Fort Dix	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible R	
Fort Dix	TRADOC	Bird	Short-eared owl	SE	YR	Possible R	
Fort Dix	TRADOC	Bird	Upland sandpiper	SE	B	Possible N	
Fort Dix	TRADOC	Amphibian	Eastern tiger salamander	SE	YR	Possible N	
Fort Dix	TRADOC	Bird	Cliff swallow	SE	M	Possible R	
Fort Dix	TRADOC	Bird	Vesper sparrow	SE	YR	Possible N	
Fort Dix	TRADOC	Reptile	Corn snake	SE	YR	Possible N	
Fort Dix	TRADOC	Bird	Pied-billed grebe	SE	YR	Possible N	
Fort Dix	TRADOC	Bird	Sedge wren	SE	B	Possible R	
Fort Dix	TRADOC	Bird	Eastern least tern	SE	T	Possible N	
Fort Dix	TRADOC	Reptile	Timber rattlesnake	SE	YR	Possible N	
Fort Dix	TRADOC	Bird	Northern harrier	SE	YR	Possible N	
Fort Dix	TRADOC	Bird	Black rail	ST	B	Possible N	
Fort Dix	TRADOC	Amphibian	Mud salamander	ST	YR	Possible R	
Fort Dix	TRADOC	Fish	Brook trout	ST	YR	Possible R	
Fort Dix	TRADOC	Bird	American bittern	ST	B	Possible R	
Fort Dix	TRADOC	Bird	Grasshopper sparrow	ST	B	Possible N	
Fort Dix	TRADOC	Bird	Northern goshawk	ST	T	Possible R	
Fort Dix	TRADOC	Bird	Red-shouldered hawk	ST	W	Possible N	
Fort Dix	TRADOC	Bird	Great blue heron	ST	YR	Possible N	
Fort Dix	TRADOC	Bird	Yellow-crowned night heron	ST	B	Possible N	
Fort Dix	TRADOC	Bird	Barred owl	ST	YR	Possible N	
Fort Dix	TRADOC	Bird	Savannah sparrow	ST	YR	Possible N	
Fort Dix	TRADOC	Bird	Red-headed woodpecker	ST	YR	Possible N	
Fort Dix	TRADOC	Bird	Bobolink	ST	M	Possible R	
Fort Dix	TRADOC	Reptile	Wood turtle	ST	YR	Possible N	
Fort Dix	TRADOC	Bird	Osprey	ST	B	Possible N	
Fort Drum	FORSCOM	Bird	American peregrine falcon	FE	M*	Possible R	
Fort Drum	FORSCOM	Mammal	Indiana bat	FE	F, M	Possible R	
Fort Drum	FORSCOM	Mammal	Mountain lion	FE	YR	Extirpated HR	
Fort Drum	FORSCOM	Bird	Bald eagle	FE	M	Possible R	
Fort Drum	FORSCOM	Bird	Arctic peregrine falcon	FT	M	Possible R	
Fort Drum	FORSCOM	Bird	Golden eagle	SE	M	Possible R	
Fort Drum	FORSCOM	Bird	Common tern	ST	M	Possible R	
Fort Drum	FORSCOM	Bird	Osprey	ST	M	Possible R	
Fort Drum	FORSCOM	Bird	Northern harrier	ST	B	Possible R	
Fort Drum	FORSCOM	Bird	Red-shouldered hawk	ST	B	Possible R	
Fort Eustis	TRADOC	Bird	Bachman's warbler	FE	M	Extirpated	
Fort Eustis	TRADOC	Bird	Bald eagle	FE	B	Current	
Fort Eustis	TRADOC	Bird	American peregrine falcon	FE	B	Possible N	
Fort Eustis	TRADOC	Reptile	Atlantic loggerhead turtle	FT	Adjacent	Possible R	
Fort Eustis	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible R	
Fort Eustis	TRADOC	Bird	Piping plover	FT	T	Possible N	

Appendix A (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Fort Eustis	TRADOC	Bird	Sodger wren	RSE	W	Possible R
Fort Eustis	TRADOC	Bird	Easter Least tern	RSE	B	Likely N
Fort Eustis	TRADOC	Reptile	Canebrake rattlesnake	RSE	YR	Possible N
Fort Eustis	TRADOC	Bird	Northern harrier	RSE	M	Possible R
Fort Eustis	TRADOC	Bird	Gull-billed tern	RSE	T	Possible R
Fort Eustis	TRADOC	Bird	Yellow-crowned night heron	RSE	B	Possible R
Fort Eustis	TRADOC	Bird	Wilson's plover	SE	T	Possible N
Fort George Meade	FORSOCM	Mammal	Eastern small-footed bat	C2	M	Possible R
Fort George Meade	FORSOCM	Bird	Bachman's sparrow	C2	B	Possible HR
Fort George Meade	FORSOCM	Mammal	Southern pygmy shrew	C2	YR	Possible R
Fort George Meade	FORSOCM	Bird	Migrant loggerhead shrike	C2	SE	Possible
Fort George Meade	FORSOCM	Bird	Bald eagle	FE	T	Possible N
Fort George Meade	FORSOCM	Bird	Kirtland's warbler	FE	M	Possible R
Fort George Meade	FORSOCM	Bird	American peregrine falcon	FE	M	Possible R
Fort Gordon	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible R
Fort Gordon	TRADOC	Reptile	Appalachian Bewick's wren	C1	B	Possible R
Fort Gordon	TRADOC	Bird	Gopher tortoise	C2	YR	Possible HR
Fort Gordon	TRADOC	Bird	American peregrine falcon	FE	M	Possible R
Fort Gordon	TRADOC	Mammal	Florida panther	FE	T	Unlikely HR
Fort Gordon	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Gordon	TRADOC	Mammal	Eastern cougar	FE	T	Unlikely HR
Fort Gordon	TRADOC	Mammal	Indiana bat	FE	F, M	Possible R
Fort Gordon	TRADOC	Bird	Bald eagle	FE	T	Possible N
Fort Gordon	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR
Fort Gordon	TRADOC	Bird	Wood stork	FE	PB	Possible N
Fort Gordon	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Current
Fort Gordon	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible R
Fort Gordon	TRADOC	Reptile	Eastern indigo snake	FT	YR	Possible HR
Fort Gordon	TRADOC	Reptile	American alligator	FTSA	YR	Possible R
Fort Indiantown Gap	FORSOCM	Insect	(Classified)			Current
Fort Indiantown Gap	FORSOCM	Reptile	Bog turtle	C2	ST	YR
Fort Indiantown Gap	FORSOCM	Insect	Tawny crescent	C2	ST	Possible N
Fort Indiantown Gap	FORSOCM	Insect	Sugar maple longhorn beetle	C2	ST	Possible N
Fort Indiantown Gap	FORSOCM	Mammal	Indiana bat	FE	M	Possible R
Fort Indiantown Gap	FORSOCM	Bird	Arctic peregrine falcon	FT	M	Possible R
Fort Indiantown Gap	FORSOCM	Bird	Upland sandpiper	ST	B	Possible N
Fort Indiantown Gap	FORSOCM	Bird	Grasshopper sparrow	ST	B	Possible N
Fort Jackson	TRADOC	Bird	Appalachian Bewick's wren	C1	B	Possible R
Fort Jackson	TRADOC	Mammal	Rafinesque's big-eared bat	C2	YR	Possible R
Fort Jackson	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Jackson	TRADOC	Bird	Bachman's warbler	FE	B	Extirpated HR
Fort Jackson	TRADOC	Bird	Wood stork	FE	YR	Possible R
Fort Jackson	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Current
Fort Jackson	TRADOC	Bird	American peregrine falcon	FE	M	Possible R
Fort Jackson	TRADOC	Bird	Kirtland's warbler	FE	M	Possible N
Fort Jackson	TRADOC	Bird	Bald eagle	FE	T	Possible N
Fort Jackson	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR
Fort Jackson	TRADOC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Jackson	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR
Fort Jackson	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible R
Fort Jackson	TRADOC	Reptile	American alligator	FTSA	YR	Possible R
Fort Jackson	TRADOC	Bird	Golden eagle	SE	T	Possible R
Fort Knox	TRADOC	Bird	Appalachian Bewick's wren	C1	YR	Possible R
Fort Knox	TRADOC	Fish	Northern cavefish	C2	SE	Current
Fort Knox	TRADOC	Mollusk	Louisville crayfish	C2	SE	Possible R
Fort Knox	TRADOC	Bird	Bachman's sparrow	C2	ST	Possible R
Fort Knox	TRADOC	Mammal	Eastern woodrat	C2	YR	Possible N
Fort Knox	TRADOC	Mollusk	Bean villosa	C2	SE	Possible NH
Fort Knox	TRADOC	Fish	Blue sucker	C2	YR	Possible N
Fort Knox	TRADOC	Reptile	Copperbelly water snake	C2	YR	Possible R
Fort Knox	TRADOC	Mammal	Southeastern bat	C2	SE	Possible R
Fort Knox	TRADOC	Fish	Eastern sand darter	C2	YR	Possible R
Fort Knox	TRADOC	Mollusk	Purple lilliput	C2	SE	Possible NH
Fort Knox	TRADOC	Mammal	Rafinesque's big-eared bat	C2	ST	Possible R
Fort Knox	TRADOC	Mollusk	Ortmann's pearly mussel	C2	SE	Possible R
Fort Knox	TRADOC	Mammal	Eastern small-footed bat	C2	SE	Possible R
Fort Knox	TRADOC	Mollusk	Salamander mussel	C2	ST	Possible N
Fort Knox	TRADOC	Amphibian	Hellbender	C2	YR	Possible R
Fort Knox	"Rawuc"	Mollusk	Onyx rocksnail	C2	YR	Possible NH
Fort Knox	TRADOC	Mollusk	Rough rabbit's foot	C2	SE	Extirpated HR
Fort Knox	TRADOC	Bird	Migrant loggerhead shrike	C2	YR	Possible R
Fort Knox	TRADOC	Mammal	Southern pygmy shrew	C2	YR	Possible N
Fort Knox	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR
Fort Knox	TRADOC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible NH
Fort Knox	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Knox	TRADOC	Mollusk	Rough pigtoe	FE	YR	Extirpated HR
Fort Knox	TRADOC	Bird	American peregrine falcon	FE	T	Possible R
Fort Knox	TRADOC	Mammal	Gray bat	FE	YR	Current
Fort Knox	TRADOC	Bird	Interior least tern	FE	T	Possible R
Fort Knox	TRADOC	Mollusk	Cracking pearly mussel	FE	YR	Possible NH
Fort Knox	TRADOC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Knox	TRADOC	Mollusk	Ring pink	FE	YR	Possible NH
Fort Knox	TRADOC	Bird	Bald eagle	FE	M	Current
Fort Knox	TRADOC	Mollusk	Fa' pocketbook	FE	YR	Possible NH
Fort Knox	TRADOC	Mollusk	Orange-footed pearly mussel	FE	YR	Extirpated HR
Fort Knox	TRADOC	Bird	Arctic peregrine falcon	FT	T	Possible R

Appendix A (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence	
Fort Knox	TRADOC	Bird	Piping plover	FT	B	Possible N	
Fort Knox	TRADOC	Mollusk	Eastern fanshell	PE	ST	YR Possible NH	
Fort Knox	TRADOC	Bird	Double-crested cormorant	SE	T	Possible R	
Fort Knox	TRADOC	Bird	Little blue heron	SE	T	Possible N	
Fort Knox	TRADOC	Bird	American bittern	SE	T	Possible N	
Fort Knox	TRADOC	Bird	Great egret	SE	T	Possible R	
Fort Knox	TRADOC	Bird	King rail	SE	B	Possible N	
Fort Knox	TRADOC	Bird	Spotted Sandpiper	SE	B	Possible R	
Fort Knox	TRADOC	Bird	Pied-billed grebe	SE	W	Possible R	
Fort Knox	TRADOC	Bird	Lark sparrow	SE	B	Possible R	
Fort Knox	TRADOC	Reptile	Kirtland's snake	SE	YR	Possible N	
Fort Knox	TRADOC	Bird	Upland sandpiper	SE	M	Possible R	
Fort Knox	TRADOC	Bird	Least bittern	SE	B	Possible N	
Fort Knox	TRADOC	Bird	American coot	SE	W	Possible R	
Fort Knox	TRADOC	Bird	Hooded merganser	SE	W	Possible R	
Fort Knox	TRADOC	Bird	Blue-winged teal	SE	T	Possible R	
Fort Knox	TRADOC	Bird	Black-crowned night heron	SE	B	Possible N	
Fort Knox	TRADOC	Bird	Blackburnian warbler	SE	T	Possible R	
Fort Knox	TRADOC	Bird	Osprey	SE	M	Possible R	
Fort Knox	TRADOC	Bird	Common moorhen	SE	T	Possible N	
Fort Knox	TRADOC	Mammal	Evening bat	ST	B	Possible R	
Fort Knox	TRADOC	Bird	Yellow-crowned night heron	ST	B	Possible N	
Fort Lee	TRADOC	Bird	Migrant Loggerhead shrike	C2	SE	B	Possible N
Fort Lee	TRADOC	Bird	Bachman's warbler	FE	M	Extirpated HR	
Fort Lee	TRADOC	Bird	American peregrine falcon	FE	T	Possible R	
Fort Lee	TRADOC	Bird	Bald eagle	FE	B	Current	
Fort Lee	TRADOC	Bird	Yellow-crowned night heron	RSE	B	Possible R	
Fort Lee	TRADOC	Bird	Northern harrier	RSE	T	Possible R	
Fort Lee	TRADOC	Bird	Henslow's sparrow	RSE	B	Possible R	
Fort Lee	TRADOC	Fish	Blackbanded sunfish	SE	YR	Current	
Fort McClellan	TRADOC	Bird	Appalachian Bewick's wren	C1	ST	YR	Possible R
Fort McClellan	TRADOC	Mollusk	Sculpin snail	C2	YR	Possible N	
Fort McClellan	TRADOC	Mollusk	Fine-lined pocketbook	C2	YR	Possible NH	
Fort McClellan	TRADOC	Mollusk	Alabama live-bearing snail	C2	YR	Possible NH	
Fort McClellan	TRADOC	Mollusk	Purple lilliput	C2	YR	Possible NH	
Fort McClellan	TRADOC	Fish	Coldwater darter	C2	YR	Possible N	
Fort McClellan	TRADOC	Fish	Blue shiner	C2	YR	Possible N	
Fort McClellan	TRADOC	Mollusk	Tennessee heelsplitter	C2	YR	Possible NH	
Fort McClellan	TRADOC	Mollusk	Upland combshell	C2	YR	Possible NH	
Fort McClellan	TRADOC	Bird	Bachman's warbler	FE	T	Extirpated HR	
Fort McClellan	TRADOC	Bird	American peregrine falcon	FE	M	Unlikely R	
Fort McClellan	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR	
Fort McClellan	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR	
Fort McClellan	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Possible N	
Fort McClellan	TRADOC	Mammal	Gray bat	FE	T	Possible R	
Fort McClellan	TRADOC	Bird	Bald eagle	FE	F	Possible N	
Fort McClellan	TRADOC	Mammal	Indiana bat	FE	B, F, M	Possible R	
Fort McClellan	TRADOC	Mollusk	Judge Tait's mussel	FE	YR	Possible NH	
Fort McClellan	TRADOC	Bird	Arctic Peregrine falcon	FT	M	Unlikely R	
Fort McClellan	TRADOC	Fish	Pygmy sculpin	FT	YR	Possible N	
Fort McCoy	FORSCOM	Insect	Karner blue butterfly	C2	SE	Current	
Fort McCoy	FORSCOM	Reptile	Eastern massasauga	C2	SE	YR Possible N	
Fort McCoy	FORSCOM	Bird	Migrant loggerhead shrike	C2	SE	B Possible N	
Fort McCoy	FORSCOM	Bird	Piping plover	FE	M	Possible N	
Fort McCoy	FORSCOM	Insect	Giant carrion beetle	FE		Possible NH	
Fort McCoy	FORSCOM	Bird	American peregrine falcon	FE	M	Current	
Fort McCoy	FORSCOM	Bird	Bald eagle	FT	M	Current	
Fort McCoy	FORSCOM	Bird	Arctic peregrine falcon	FT	M	Possible R	
Fort McCoy	FORSCOM	Bird	Caspian tern	SE	M	Current	
Fort McCoy	FORSCOM	Reptile	Western slender glass lizard	SE	YR	Current	
Fort McCoy	FORSCOM	Bird	Yellow-throated warbler	SE	M	Possible	
Fort McCoy	FORSCOM	Amphibian	Blanchard's cricket frog	SE	YR	Current	
Fort McCoy	FORSCOM	Bird	Osprey	SE	SR	Current	
Fort McCoy	FORSCOM	Bird	Red-necked grebe	SE	M	Possible	
Fort McCoy	FORSCOM	Reptile	Wood turtle	ST	YR	Current	
Fort McCoy	FORSCOM	Fish	Redfin shiner	ST	YR	Possible N	
Fort McCoy	FORSCOM	Bird	Acadian flycatcher	ST	M	Possible N	
Fort McCoy	FORSCOM	Bird	Bell's vireo	ST	T	Possible R	
Fort McCoy	FORSCOM	Bird	Kentucky Warbler	ST	M	Current	
Fort McCoy	FORSCOM	Bird	Great egret	ST	B	Possible N	
Fort McCoy	FORSCOM	Bird	Red-shouldered hawk	ST	B	Possible N	
Fort McCoy	FORSCOM	Fish	Gilt darter	ST	YR	Possible N	
Fort McCoy	FORSCOM	Fish	River redhorse	ST	YR	Possible N	
Fort McCoy	FORSCOM	Bird	Cerulean Warbler	ST	B	Possible N	
Fort McCoy	FORSCOM	Reptile	Blanding's turtle	ST	YR	Current	
Fort Pickett	FORSCOM	Bird	Migrant loggerhead shrike	C2	SE	B Possible R	
Fort Pickett	FORSCOM	Bird	American peregrine falcon	FE	M	Possible R	
Fort Pickett	FORSCOM	Mollusk	Dwarf wedge mussel	FE	YR	Possible N	
Fort Pickett	FORSCOM	Bird	Bachman's warbler	FE	M	Extirpated HR	
Fort Pickett	FORSCOM	Bird	Henslow's sparrow	RSE	B	Possible R	
Fort Pickett	FORSCOM	Bird	Northern harrier	RSE	M	Possible R	
Fort Rucker	TRADOC	Bird	Appalachian Bewick's wren	C1	ST	M Unlikely R	
Fort Rucker	TRADOC	Mollusk	Southern sandshell	C2	YR	Possible HR	
Fort Rucker	TRADOC	Mollusk	Choctaw bean	C2	YR	Possible HR	
Fort Rucker	TRADOC	Mollusk	Southern kidneyshell	C2	YR	Possible HR	
Fort Rucker	TRADOC	Reptile	Gopher tortoise	C2	ST	YR Extirpated HR	

Appendix A (continued)

Installation	MACOM	TAXON	Species	Status	Residency	Occurrance	
Fort Rucker	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort Rucker	TRADOC	Bird	American peregrine falcon	FE	T	Possible R	
Fort Rucker	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR	
Fort Rucker	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR	
Fort Rucker	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Unlikely R	
Fort Rucker	TRADOC	Mammal	Indiana bat	FE	B, F	Possible N	
Fort Rucker	TRADOC	Bird	Bald eagle	FE	F	Possible N	
Fort Rucker	TRADOC	Bird	Bachman's warbler	FE	B	Extirpated	
Fort Rucker	TRADOC	Bird	Wood stork	FE	PB	Possible N	
Fort Rucker	TRADOC	Bird	Arctic peregrine falcon	FT	T	Possible R	
Fort Rucker	TRADOC	Reptile	Eastern indigo snake	FT	YR	Extirpated HR	
Fort Stewart	FORSCOM	Mammal	Sherman's pocket gopher	3A	SE	Possible HR	
Fort Stewart	FORSCOM	Bird	Appalachian Bewick's wren	C1	M	Possible R	
Fort Stewart	FORSCOM	Reptile	Gopher tortoise	C2	YR	Current	
Fort Stewart	FORSCOM	Bird	Red-cockaded woodpecker	FE	YR	Current	
Fort Stewart	FORSCOM	Mammal	Eastern cougar	FE	T	Possible HR	
Fort Stewart	FORSCOM	Bird	Kirtland's warbler	FE	M	Possible R	
Fort Stewart	FORSCOM	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort Stewart	FORSCOM	Bird	American peregrine falcon	FE	M	Possible R	
Fort Stewart	FORSCOM	Bird	Bachman's warbler	FE	B	Extirpated R	
Fort Stewart	FORSCOM	Mammal	Florida panther	FE	T	Possible HR	
Fort Stewart	FORSCOM	Bird	Bald eagle	FE	W	Likely N	
Fort Stewart	FORSCOM	Bird	Wood stork	FE	PB	Possible N	
Fort Stewart	FORSCOM	Mammal	West Indian manatee	FE	Adjacent	Possible R	
Fort Stewart	FORSCOM	Mammal	Red wolf	FE	YR	Extirpated HR	
Fort Stewart	FORSCOM	Reptile	Kemp's ridley sea turtle	FE	Adjacent	Possible R	
Fort Stewart	FORSCOM	Fish	Shortnose sturgeon	FE	YR	Possible N	
Fort Stewart	FORSCOM	Reptile	Eastern indigo snake	FT	YR	Possible R	
Fort Stewart	FORSCOM	Bird	Arctic peregrine falcon	FT	M	Possible R	
Fort Stewart	FORSCOM	Reptile	Loggerhead sea turtle	FT	W	Possible R	
Fort Stewart	FORSCOM	Bird	Piping plover	FT	Adjacent	Possible R	
Fort Stewart	FORSCOM	Bird	American alligator	FTSA	YR	Current	
Fort Story	TRADOC	Mammal	Brown pelican	SE	YR	Possible N	
Fort Story	TRADOC	Fish	Pungo mouse	C2	YR	Possible N	
Fort Story	TRADOC	Bird	Bachman's warbler	FE	M	Possible R	
Fort Story	TRADOC	Bird	American peregrine falcon	FE	M	Possible R	
Fort Story	TRADOC	Reptile	Kemp's ridley sea turtle	FE	Adjacent	Possible R	
Fort Story	TRADOC	Reptile	Atlantic leatherback	FE	Adjacent	Possible R	
Fort Story	TRADOC	Reptile	Green turtle	FT	Adjacent	Possible R	
Fort Story	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible R	
Fort Story	TRADOC	Bird	Piping plover	FT	T	Possible R	
Fort Story	TRADOC	Reptile	Loggerhead sea turtle	FT	SR	Possible N	
Fort Story	TRADOC	Bird	Yellow-crowned night heron	RSE	YR	Possible R	
Fort Story	TRADOC	Bird	Northern harrier	RSE	M	Possible HR	
Fort Story	TRADOC	Bird	Gull-billed tern	RSE	T	Possible R	
Fort Story	TRADOC	Bird	Henslow's sparrow	RSE	B	Possible N	
Fort Story	TRADOC	Bird	Sedge wren	RSE	W	Possible R	
Fort Story	TRADOC	Bird	Eastern least tern	RSE	B	Likely N	
Fort Story	TRADOC	Reptile	Eastern chicken turtle	SE	YR	Possible N	
Fort Story	TRADOC	Bird	Wilson's plover	SE	T	Possible N	
Indiana AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	B	Possible NH
Indiana AAP	AMC	Reptile	Kirtland's snake	C2	ST	YR	Possible N
Indiana AAP	AMC	Fish	Blue sucker	C2	SE	YR	Possible N
Indiana AAP	AMC	Amphibian	Hellbender	C2	SE	YR	Current
Indiana AAP	AMC	Mollusk	Rough rabbit's foot	C2	SE	YR	Extirpated HR
Indiana AAP	AMC	Bird	Bald eagle	FE	M	Possible N	
Indiana AAP	AMC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible HR	
Indiana AAP	AMC	Mollusk	Rough pigtoe	FE	YR	Extirpated HR	
Indiana AAP	AMC	Bird	American peregrine falcon	FE	M	Possible N	
Indiana AAP	AMC	Mammal	Gray bat	FE	PB	Possible N	
Indiana AAP	AMC	Mollusk	Tubercled-blossom pearly mussel	FE	YR	Extirpated HR	
Indiana AAP	AMC	Mollusk	Orange-footed pearly mussel	FE	YR	Extirpated HR	
Indiana AAP	AMC	Mammal	Indiana bat	FE	F, M	Possible N	
Indiana AAP	AMC	Bird	Interior least tern	FE	T	Possible N	
Indiana AAP	AMC	Bird	Arctic peregrine falcon	FT	M	Possible N	
Indiana AAP	AMC	Bird	Osprey	SE	M	Possible R	
Indiana AAP	AMC	Bird	American bittern	SE	M	Possible R	
Indiana AAP	AMC	Mollusk	Long-solid	SE	YR	Possible HR	
Indiana AAP	AMC	Bird	Black-crowned night heron	SE	M	Possible NH	
Indiana AAP	AMC	Mammal	Evening bat	SE	F, M	Possible N	
Indiana AAP	AMC	Bird	Great egret	SE	M	Possible R	
Indiana AAP	AMC	Bird	Northern harrier	SE	YR	Possible R	
Indiana AAP	AMC	Bird	Yellow-crowned night heron	SE	B	Possible R	
Indiana AAP	AMC	Mammal	Bobcat	SE	YR	Possible N	
Indiana AAP	AMC	Bird	Barn owl	SE	YR	Possible R	
Indiana AAP	AMC	Mammal	Badger	ST	YR	Possible R	
Jefferson PG	AMC	Bird	Migrant loggerhead shrike	C2	SE	B	Possible R
Jefferson PG	AMC	Reptile	Kirtland's snake	C2	ST	YR	Current
Jefferson PG	AMC	Fish	Eastern sand darter	C2	SE	PB	Possible N
Jefferson PG	AMC	Bird	American peregrine falcon	FE	M	Possible R	
Jefferson PG	AMC	Bird	Bald eagle	FE	W	Possible R	
Jefferson PG	AMC	Mammal	Gray bat	FE	PB	Possible N	
Jefferson PG	AMC	Mammal	Indiana bat	FE	F, M	Possible N	
Jefferson PG	AMC	Bird	Arctic peregrine falcon	FT	M	Possible R	
Jefferson PG	AMC	Bird	Northern harrier	SE	YR	Possible R	

Appendix A (continued)

Installation	MACOM	TAXON	Species	Status	Residency	Occurrence
Jefferson PG	AMC	Bird	Great egret	SE	M	Possible R
Jefferson PG	AMC	Mammal	Evening bat	SE	B	Possible R
Jefferson PG	AMC	Bird	Yellow-crowned night heron	SE	B	Possible R
Jefferson PG	AMC	Bird	King rail	SE	B	Possible R
Jefferson PG	AMC	Bird	Barn owl	SE	YR	Possible N
Jefferson PG	AMC	Bird	American bittern	SE	M	Possible R
Jefferson PG	AMC	Mammal	Bobcat	SE	YR	Possible R
Jefferson PG	AMC	Bird	Henslow's sparrow	ST	B	Possible R
Joliet AAP	AMC	Bird	Swainson's hawk	3C	SE	M Possible R
Joliet AAP	AMC	Reptile	Kirtland's snake	C2	YR	Possible N
Joliet AAP	AMC	Mollusk	Salamander mussel	C2	ST	B Current
Joliet AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	YR Possible N
Joliet AAP	AMC	Mollusk	Spectaclecase	FE	YR	Possible N
Joliet AAP	AMC	Mollusk	Cracking pearly mussel	FE	YR	Possible N
Joliet AAP	AMC	Bird	Least tern	FE	PB	Possible R
Joliet AAP	AMC	Bird	Bald eagle	FE	W	Current
Joliet AAP	AMC	Mammal	Indiana bat	FE	B, F	Possible R
Joliet AAP	AMC	Bird	American peregrine falcon	FE	M	Possible R
Joliet AAP	AMC	Bird	Arctic peregrine falcon	FT	M	Possible R
Joliet AAP	AMC	Bird	Sharp-shinned hawk	SE	YR	Possible R
Joliet AAP	AMC	Bird	Great egret	SE	B	Likely N
Joliet AAP	AMC	Bird	Cooper's hawk	SE	YR	Possible N
Joliet AAP	AMC	Bird	Black-crowned night heron	SE	B	Likely N
Joliet AAP	AMC	Bird	Snowy egret	SE	PB	Possible N
Joliet AAP	AMC	Bird	Little blue heron	SE	PB	Possible N
Joliet AAP	AMC	Bird	Pied-billed grebe	SE	M	Possible N
Joliet AAP	AMC	Mollusk	Slippershell mussel	SE	YR	Possible N
Joliet AAP	AMC	Bird	Forster's tern	SE	B	Former HR
Joliet AAP	AMC	Bird	Upland sandpiper	SE	B	Current
Joliet AAP	AMC	Bird	Sandhill crane	SE	M	Possible N
Joliet AAP	AMC	Bird	Least bittern	SE	B	Possible R
Joliet AAP	AMC	Mollusk	Higgins eye pearly mussel	SE	YR	Possible N
Joliet AAP	AMC	Mollusk	Rainbow	SE	YR	Possible N
Joliet AAP	AMC	Bird	Common tern	SE	M	Possible N
Joliet AAP	AMC	Reptile	Spotted turtle	SE	YR	Possible N
Joliet AAP	AMC	Bird	Osprey	SE	M	Possible N
Joliet AAP	AMC	Mollusk	Snuff box	SE	YR	Possible N
Joliet AAP	AMC	Bird	Short-eared owl	SE	YR	Possible N
Joliet AAP	AMC	Bird	Yellow-headed blackbird	SE	B	Possible N
Joliet AAP	AMC	Bird	American bittern	SE	B	Likely N
Joliet AAP	AMC	Bird	Double-crested cormorant	SE	M	Possible N
Joliet AAP	AMC	Bird	Barn owl	SE	YR	Possible N
Joliet AAP	AMC	Bird	Northern harrier	SE	B	Current
Joliet AAP	AMC	Bird	Red-shouldered hawk	SE	B	Possible R
Joliet AAP	AMC	Bird	Black tern	SE	B	Possible N
Joliet AAP	AMC	Fish	River redhorse	ST	YR	Possible N
Joliet AAP	AMC	Bird	Brown creeper	ST	B	Possible N
Joliet AAP	AMC	Bird	Common moorhen	ST	B	Possible N
Joliet AAP	AMC	Fish	Blacknose shiner	ST	YR	Possible N
Joliet AAP	AMC	Mollusk	Sheepshead	ST	YR	Possible N
Joliet AAP	AMC	Fish	Bigeye shiner	ST	YR	Possible N
Joliet AAP	AMC	Mollusk	Elephant ear	ST	YR	Possible N
Joliet AAP	AMC	Bird	Bewick's wren	ST	M	Possible N
Joliet AAP	AMC	Bird	Henslow's sparrow	ST	B	Likely N
Joliet AAP	AMC	Mammal	Bobcat	ST	YR	Possible R
Joliet AAP	AMC	Mammal	River otter	ST	YR	Possible R
Joliet AAP	AMC	Mollusk	Creek heelsplitter	ST	YR	Possible N
Joliet AAP	AMC	Bird	Veery	ST	B	Likely N
Letterkenny AD	AMC	Bird	Appalachian Bewick's wren	C1	ST	B Possible R
Letterkenny AD	AMC	Reptile	Bog turtle	C2	SE	YR Likely N
Letterkenny AD	AMC	Mammal	Eastern small-footed bat	C2	SE	M Possible R
Letterkenny AD	AMC	Mammal	Indiana bat	FE	M	Possible R
Letterkenny AD	AMC	Bird	Arctic peregrine falcon	FT	M	Possible R
Letterkenny AD	AMC	Reptile	Red-bellied turtle	SE	YR	Possible N
Letterkenny AD	AMC	Bird	Grasshopper sparrow	ST	B	Current
Letterkenny AD	AMC	Insect	Buckmoth	ST		Possible N
Letterkenny AD	AMC	Bird	Upland sandpiper	ST	B	Possible N
Letterkenny AD	AMC	Bird	Henslow's sparrow	ST	B	Current
Lexington/Bluegrass	AMC	Bird	Appalachian Bewick's wren	C1	B	Possible R
Lexington/Bluegrass	AMC	Amphibian	Hellbender	C2	ST	YR Possible R
Lexington/Bluegrass	AMC	Bird	Bachman's sparrow	C2	B	Possible R
Lexington/Bluegrass	AMC	Mammal	Southern pygmy shrew	C2	YR	Possible N
Lexington/Bluegrass	AMC	Fish	Eastern sand darter	C2	YR	Possible N
Lexington/Bluegrass	AMC	Bird	Migrant loggerhead shrike	C2	YR	Possible R
Lexington/Bluegrass	AMC	Mammal	Eastern woodrat	C2	YR	Possible N
Lexington/Bluegrass	AMC	Mammal	Eastern small-footed bat	C2	F, M	Possible R
Lexington/Bluegrass	AMC	Mammal	Rafinesque's big-eared bat	C2	F, M	Possible N
Lexington/Bluegrass	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Lexington/Bluegrass	AMC	Bird	Bald eagle	FE	W	Possible R
Lexington/Bluegrass	AMC	Bird	American peregrine falcon	FE	T	Possible R
Lexington/Bluegrass	AMC	Mammal	Gray bat	FE	F	Possible N
Lexington/Bluegrass	AMC	Mammal	Indiana bat	FE	F, M	Possible N
Lexington/Bluegrass	AMC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Lexington/Bluegrass	AMC	Mammal	Virginia big-eared bat	FE	F, M	Possible N
Lexington/Bluegrass	AMC	Bird	Arctic peregrine falcon	FT	T	Possible R
Lexington/Bluegrass	AMC	Bird	Black-crowned night heron	SE	B	Possible R

Appendix A (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Lexington/Bluegrass	AMC	Bird	American coot	SE	W	Possible R
Lexington/Bluegrass	AMC	Bird	Upland sandpiper	SE	M	Possible R
Lexington/Bluegrass	AMC	Bird	Pied-billed grebe	SE	YR	Possible R
Lexington/Bluegrass	AMC	Bird	Lark sparrow	SE	B	Possible N
Lexington/Bluegrass	AMC	Bird	American bittern	SE	T	Possible NH
Lexington/Bluegrass	AMC	Bird	Osprey	SE	M	Possible R
Lexington/Bluegrass	AMC	Mammal	Evening bat	SE	B	Possible R
Lexington/Bluegrass	AMC	Bird	Yellow-crowned night heron	ST	ST	Possible N
Milan AAP	AMC	Bird	Appalachian Bewick's wren	C1	ST	YR
Milan AAP	AMC	Reptile	Copperbelly water snake	C2	YR	Possible R
Milan AAP	AMC	Reptile	Alligator snapping turtle	C2	YR	Possible R
Milan AAP	AMC	Mammal	Rafinesque's big-eared bat	C2	SE	Possible N
Milan AAP	AMC	Bird	Bachman's sparrow	C2	SE	Possible R
Milan AAP	AMC	Bird	American peregrine falcon	FE	W	Possible R
Milan AAP	AMC	Bird	Bald eagle	FE	W	Possible R
Milan AAP	AMC	Bird	Ivory-billed woodpecker	FE	YR	Possible HR
Milan AAP	AMC	Bird	Interior least tern	FE	T	Possible R
Milan AAP	AMC	Mammal	Eastern cougar	FE	YR	Unlikely HR
Milan AAP	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Milan AAP	AMC	Bird	Bachman's warbler	FE	M	Extirpated HR
Milan AAP	AMC	Mammal	Gray bat	FE	F, M	Possible R
Milan AAP	AMC	Mammal	Indiana bat	FE	F, M	Possible R
Milan AAP	AMC	Bird	Red-cockaded woodpecker	FE	YR	Extirpated HR
Milan AAP	AMC	Bird	Arctic peregrine falcon	FT	M	Possible R
Milan AAP	AMC	Bird	Virginia rail	SE	T	Possible N
Milan AAP	AMC	Bird	King rail	SE	B	Possible N
Milan AAP	AMC	Bird	Least bittern	ST	T	Possible R
Milan AAP	AMC	Bird	Black-crowned night heron	ST	YR	Possible N
Milan AAP	AMC	Bird	Northern harrier	ST	T	Possible N
Milan AAP	AMC	Mammal	River otter	ST	YR	Unlikely N
Milan AAP	AMC	Bird	Yellow-crowned night heron	ST	B	Possible N
Milan AAP	AMC	Bird	Cooper's hawk	ST	YR	Possible N
Milan AAP	AMC	Bird	Sharp-shinned hawk	ST	YR	Possible N
Milan AAP	AMC	Bird	Grasshopper sparrow	ST	B	Possible N
Milan AAP	AMC	Bird	Great blue heron	ST	YR	Possible R
Mississippi AAP	AMC	Mammal	Louisiana black bear	C1	SE	YR
Mississippi AAP	AMC	Reptile	Black pine snake	C2	SE	YR
Mississippi AAP	AMC	Fish	Gulf sturgeon	C2	SE	Likely R
Mississippi AAP	AMC	Amphibian	Dusky gopher frog	C2	SE	Possible R
Mississippi AAP	AMC	Fish	Frecklebellied madtom	C2	SE	Possible N
Mississippi AAP	AMC	Bird	Bachman's warbler	FE	T	Extirpated HR
Mississippi AAP	AMC	Bird	American peregrine falcon	FE	M	Possible R
Mississippi AAP	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Mississippi AAP	AMC	Bird	Bald eagle	FE	B, F	Possible N
Mississippi AAP	AMC	Mammal	Florida panther	FE	YR	Possible HR
Mississippi AAP	AMC	Bird	Red-cockaded woodpecker	FE	YR	Possible R
Mississippi AAP	AMC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR
Mississippi AAP	AMC	Bird	Arctic peregrine falcon	FT	M	Possible R
Mississippi AAP	AMC	Reptile	Eastern indigo snake	FT	YR	Possible R
Mississippi AAP	AMC	Reptile	Ringed sawback turtle	FT	YR	Possible R
Mississippi AAP	AMC	Reptile	Gopher tortoise	FT	YR	Possible R
Mississippi AAP	AMC	Reptile	American alligator	FTSA	YR	Possible R
Mississippi AAP	AMC	Reptile	Rainbow snake	SE	YR	Possible R
Mississippi AAP	AMC	Bird	Brown pelican	SE	T	Possible R
Mississippi AAP	AMC	Fish	Atlantic sturgeon	SE	YR	Likely R
Newport AAP	AMC	Mollusk	Northern riffleshell	C2	SE	YR
Newport AAP	AMC	Reptile	Kirtland's snake	C2	ST	YR
Newport AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	B
Newport AAP	AMC	Mollusk	Clubshell	C2	SE	YR
Newport AAP	AMC	Fish	Eastern sand darter	C2	SE	Possible N
Newport AAP	AMC	Insect	Karner blue butterfly	C2	SE	Possible N
Newport AAP	AMC	Fish	Blue sucker	C2	SE	Possible N
Newport AAP	AMC	Mollusk	White wartyback	FE	YR	Possible N
Newport AAP	AMC	Mammal	Indiana bat	FE	M	Possible N
Newport AAP	AMC	Mollusk	Rough pigtoe	FE	YR	Possible NH
Newport AAP	AMC	Mollusk	Fat pocketbook	FE	YR	Possible N
Newport AAP	AMC	Bird	Bald eagle	FE	M	Possible N
Newport AAP	AMC	Mollusk	White catstawn	PE	YR	Possible N
Newport AAP	AMC	Mollusk	Fanshell	PE	YR	Possible N
Newport AAP	AMC	Bird	Northern harrier	SE	YR	Possible R
Newport AAP	AMC	Bird	Barn owl	SE	YR	Possible R
Newport AAP	AMC	Mollusk	Snuff box	SE	YR	Possible N
Newport AAP	AMC	Bird	American bittern	SE	M	Possible R
Newport AAP	AMC	Bird	Black-crowned night heron	SE	M	Possible R
Newport AAP	AMC	Mollusk	Sheepnose	SE	YR	Possible N
Newport AAP	AMC	Bird	Osprey	SE	M	Possible R
Newport AAP	AMC	Mammal	Evening bat	SE	B	Possible N
Newport AAP	AMC	Mollusk	Long-solid	SE	YR	Possible N
Newport AAP	AMC	Bird	Yellow-crowned night heron	SE	B	Possible N
Newport AAP	AMC	Bird	Great egret	SE	PB	Possible R
Newport AAP	AMC	Bird	Sedge wren	ST	B	Possible R
Picatinny Arsenal	AMC	Mammal	New England cottontail	C2	ST	YR
Picatinny Arsenal	AMC	Mammal	Eastern woodrat	C2	SE	Current
Picatinny Arsenal	AMC	Reptile	Bog turtle	C2	SE	Current
Picatinny Arsenal	AMC	Insect	Hebard's noctuid moth	C2	SE	Possible N
Picatinny Arsenal	AMC	Insect	Mitchell's satyr butterfly	C2	SE	Extirpated NH

Appendix A (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrance
Picatinny Arsenal	AMC	Mammal	Mountain lion	FE	YR	Extirpated HR
Picatinny Arsenal	AMC	Bird	Bald eagle	FE	T	Possible R
Picatinny Arsenal	AMC	Bird	American peregrine falcon	FE	M	Possible R
Picatinny Arsenal	AMC	Bird	Arctic peregrine falcon	FT	M	Possible R
Picatinny Arsenal	AMC	Bird	Vesper sparrow	SE	M	Current
Picatinny Arsenal	AMC	Amphibian	Trembley's salamander	SE	YR	Possible N
Picatinny Arsenal	AMC	Bird	Cliff swallow	SE	M	Current
Picatinny Arsenal	AMC	Amphibian	Blue-spotted salamander	SE	YR	Possible N
Picatinny Arsenal	AMC	Bird	Northern harrier	SE	M	Current
Picatinny Arsenal	AMC	Bird	Cooper's hawk	SE	T	Current
Picatinny Arsenal	AMC	Bird	Pied-billed grebe	SE	M	Current
Picatinny Arsenal	AMC	Bird	Sedge wren	SE	B	Possible N
Picatinny Arsenal	AMC	Bird	Upland sandpiper	SE	B	Current
Picatinny Arsenal	AMC	Reptile	Timber rattlesnake	SE	YR	Current
Picatinny Arsenal	AMC	Bird	Short-eared owl	SE	W	Possible R
Picatinny Arsenal	AMC	Bird	American bittern	SE	M	Current
Picatinny Arsenal	AMC	Reptile	Wood turtle	ST	YR	Current
Picatinny Arsenal	AMC	Amphibian	Longtail salamander	ST	YR	Possible N
Picatinny Arsenal	AMC	Bird	Red-shouldered hawk	ST	T	Current
Picatinny Arsenal	AMC	Bird	Osprey	ST	M	Possible R
Picatinny Arsenal	AMC	Bird	Red-headed woodpecker	ST	YR	Possible R
Picatinny Arsenal	AMC	Bird	Northern goshawk	ST	YR	Current
Picatinny Arsenal	AMC	Bird	Bobolink	ST	B	Possible N
Picatinny Arsenal	AMC	Bird	Great blue heron	ST	YR	Current
Picatinny Arsenal	AMC	Bird	Yellow-crowned night heron	ST	B	Possible N
Picatinny Arsenal	AMC	Bird	Barred owl	ST	YR	Current
Picatinny Arsenal	AMC	Bird	Black rail	ST	T	Possible N
Picatinny Arsenal	AMC	Bird	Savannah sparrow	ST	M	Current
Picatinny Arsenal	AMC	Fish	Brook trout	ST	YR	Current
Picatinny Arsenal	AMC	Bird	Grasshopper sparrow	ST	B	Possible N
Radford AAP	AMC	Amphibian	Appalachian Bewick's wren	C1		
Radford AAP	AMC	Bird	Mudpuppy	C2	YR	Possible N
Radford AAP	AMC	Fish	Finescale saddled darter	C2	YR	Possible N
Radford AAP	AMC	Fish	Kanawha minnow	C2	YR	Possible N
Radford AAP	AMC	Amphibian	Hellbender	C2	YR	Possible N
Radford AAP	AMC	Bird	Migrant loggerhead shrike	C2	YR	Possible N
Radford AAP	AMC	Mollusk	Virginia fringed mountain snail	FE	YR	Possible N
Radford AAP	AMC	Bird	American peregrine falcon	FE	T	Possible R
Radford AAP	AMC	Bird	Bachman's warbler	FE	M	Extirpated HR
Radford AAP	AMC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Radford AAP	AMC	Mammal	Indiana bat	FE	T	Possible R
Radford AAP	AMC	Bird	Northern harrier	RSE	T	Possible R
Radford AAP	AMC	Bird	Yellow-crowned night heron	RSE	B	Possible NH
Ravenna AAP	AMC	Reptile	Eastern massasauga	C2	YR	Possible NH
Ravenna AAP	AMC	Bird	American peregrine falcon	FE	M	Possible R
Ravenna AAP	AMC	Mammal	Indiana bat	FE	F	Possible R
Ravenna AAP	AMC	Bird	Arctic peregrine falcon	FT	M	Possible R
Ravenna AAP	AMC	Mollusk	Eastern pondmussel	SE	YR	Possible N
Ravenna AAP	AMC	Bird	Northern harrier	SE	B	Possible N
Ravenna AAP	AMC	Bird	American bittern	SE	B	Possible N
Ravenna AAP	AMC	Fish	Mountain brook lamprey	SE	YR	Possible N
Ravenna AAP	AMC	Bird	Bewick's wren	SE	B	Possible NH
Ravenna AAP	AMC	Bird	Barn owl	SE	B	Possible R
Ravenna AAP	AMC	Bird	King rail	SE	B	Possible NH
Ravenna AAP	AMC	Bird	Northern waterthrush	SE	B	Possible N
Redstone Arsenal	AMC	Bird	Appalachian Bewick's wren	C1	ST	M
Redstone Arsenal	AMC	Mollusk	Oyster mussel	C2	YR	Unlikely NH
Redstone Arsenal	AMC	Mollusk	Slabside pearly mussel	C2	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Tennessee clubshell	C2	YR	Unlikely NH
Redstone Arsenal	AMC	Fish	Tuscombia darter	C2	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Fanshell	C2	YR	Possible NH
Redstone Arsenal	AMC	Mollusk	Tan riffleshell	FE	YR	Possible NH
Redstone Arsenal	AMC	Mammal	Indiana bat	FE	F	Possible N
Redstone Arsenal	AMC	Mollusk	Orange-footed pearly mussel	FE	YR	Possible N
Redstone Arsenal	AMC	Bird	Wood stork	FE	M	Possible N
Redstone Arsenal	AMC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible N
Redstone Arsenal	AMC	Mammal	Florida panther	FE	YR	Extirpated HR
Redstone Arsenal	AMC	Bird	Bald eagle	FE	W	Current
Redstone Arsenal	AMC	Bird	Bachman's warbler	FE	T	Extirpated HR
Redstone Arsenal	AMC	Mammal	Gray bat	FE	F	Possible N
Redstone Arsenal	AMC	Mollusk	Shiny pigtoe	FE	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Pale lilliput pearly mussel	FE	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Fine-rayed pigtoe	FE	YR	Possible NH
Redstone Arsenal	AMC	Fish	Slackwater darter	FE	YR	Possible N
Redstone Arsenal	AMC	Crustacean	Alabama cave shrimp	FE	YR	Current
Redstone Arsenal	AMC	Mollusk	Dromedary pearly mussel	FE	YR	Unlikely NH
Redstone Arsenal	AMC	Bird	American peregrine falcon	FE	T	Possible R
Redstone Arsenal	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Pedstone Arsenal	AMC	Mollusk	Rough pigtoe	FE	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Birdwing pearly mussel	FE	YR	Possible NH
Redstone Arsenal	AMC	Bird	Arctic peregrine falcon	FT	T	Possible R
Redstone Arsenal	AMC	Bird	Piping plover	FT	M	Possible R
Redstone Arsenal	AMC	Reptile	American alligator	FTSA	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Ring pink	PE	YR	Possible R
Savanna AD	AMC	Bird	Swainson's hawk	3C	SE	M
Savanna AD	AMC	Reptile	Eastern massasauga	C2	YR	Possible N

Appendix A (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrance
Savanna AD	AMC	Fish	Lake sturgeon	C2	ST	YR
Savanna AD	AMC	Bird	Migrant loggerhead shrike	C2	ST	YR
Savanna AD	AMC	Mollusk	Scalesholl	C2		YR
Savanna AD	AMC	Mollusk	Spectaclecase	C2	SE	YR
Savanna AD	AMC	Bird	Bald eagle	FE		Current
Savanna AD	AMC	Bird	American peregrine falcon	FE		Unlikely
Savanna AD	AMC	Mollusk	Higgins eye pearly mussel	FE		YR
Savanna AD	AMC	Mammal	Indiana bat	FE		Possible
Savanna AD	AMC	Bird	Arctic peregrine falcon	FT		NH
Savanna AD	AMC	Bird	Yellow-headed blackbird	SE		Unlikely
Savanna AD	AMC	Mollusk	Rainbow	SE		B
Savanna AD	AMC	Bird	Upland sandpiper	SE		Possible
Savanna AD	AMC	Bird	Barn owl	SE		Current
Savanna AD	AMC	Bird	Great egret	SE		B
Savanna AD	AMC	Bird	Double-crested cormorant	SE		Possible
Savanna AD	AMC	Bird	Long-eared owl	SE		N
Savanna AD	AMC	Bird	American bittern	SE		Possible
Savanna AD	AMC	Bird	Sharp-shinned hawk	SE		R
Savanna AD	AMC	Bird	Red-shouldered hawk	SE		Current
Savanna AD	AMC	Mollusk	Snuff box	SE		B
Savanna AD	AMC	Bird	Black-crowned night heron	SE		Possible
Savanna AD	AMC	Bird	Osprey	SE		N
Savanna AD	AMC	Fish	Pallid shiner	SE		Possible
Savanna AD	AMC	Bird	Little blue heron	SE		R
Savanna AD	AMC	Mammal	White-tailed jackrabbit	SE		Current
Savanna AD	AMC	Bird	Least bittern	SE		B
Savanna AD	AMC	Bird	Cooper's hawk	SE		Possible
Savanna AD	AMC	Bird	Northern harrier	SE		R
Savanna AD	AMC	Bird	Black tern	SE		Possible
Savanna AD	AMC	Bird	Short-eared owl	SE		N
Savanna AD	AMC	Mammal	River otter	ST		Current
Savanna AD	AMC	Mollusk	Sheepnose	ST		Possible
Savanna AD	AMC	Mollusk	Elephant ear	ST		NH
Savanna AD	AMC	Mammal	Bobcat	ST		Possible
Savanna AD	AMC	Bird	Brown creeper	ST		R
Savanna AD	AMC	Reptile	Dusty hognose snake	ST		Likely
Savanna AD	AMC	Bird	Veery	ST		N
Seneca AD	AMC	Reptile	Bog turtle	C2	SE	Possible
Seneca AD	AMC	Bird	Bald eagle	FE		Possible
Seneca AD	AMC	Mammal	Indiana bat	FE		R
Seneca AD	AMC	Bird	American peregrine falcon	FE		Possible
Seneca AD	AMC	Mammal	Mountain lion	FE		Extirpated
Seneca AD	AMC	Bird	Arctic peregrine falcon	FT		R
Seneca AD	AMC	Reptile	Massasauga	SE		Possible
Seneca AD	AMC	Bird	Golden eagle	SE		R
Seneca AD	AMC	Bird	Red-shouldered hawk	ST		Possible
Seneca AD	AMC	Bird	Common tern	ST		N
Seneca AD	AMC	Reptile	Timber rattlesnake	ST		Possible
Seneca AD	AMC	Bird	Osprey	ST		R
Seneca AD	AMC	Bird	Northern harrier	ST		Possible
Sunny Point MT	MTMC	Mammal	Rafinesque's big-eared bat	C2	SE	Possible
Sunny Point MT	MTMC	Mollusk	Rare skipper	C2		Current
Sunny Point MT	MTMC	Bird	Bachman's sparrow	C2		Possible
Sunny Point MT	MTMC	Amphibian	Carolina gopher frog	C2		N
Sunny Point MT	MTMC	Mollusk	Magnificent ramshorn	C2	SE	Current
Sunny Point MT	MTMC	Bird	Bald eagle	FE		Possible
Sunny Point MT	MTMC	Bird	Red-cockaded woodpecker	FE		R
Sunny Point MT	MTMC	Bird	Kirtland's warbler	FE		Possible
Sunny Point MT	MTMC	Bird	American peregrine falcon	FE		R
Sunny Point MT	MTMC	Reptile	Hawksbill turtle	FE	Adjacent	Possible
Sunny Point MT	MTMC	Reptile	Kemp's ridley sea turtle	FE	Adjacent	Possible
Sunny Point MT	MTMC	Mammal	Eastern cougar	FE		Extirpated
Sunny Point MT	MTMC	Bird	Bachman's warbler	FE		R
Sunny Point MT	MTMC	Fish	Shortnose sturgeon	FE		Possible
Sunny Point MT	MTMC	Mammal	West Indian manatee	FE	Adjacent	Possible
Sunny Point MT	MTMC	Reptile	Green turtle	FE	Adjacent	Possible
Sunny Point MT	MTMC	Reptile	Leatherback turtle	FE	Adjacent	Possible
Sunny Point MT	MTMC	Bird	Roseate tern	FE		R
Sunny Point MT	MTMC	Bird	Ivory-billed woodpecker	FE		Extirpated
Sunny Point MT	MTMC	Bird	Wood stork	FE		HR
Sunny Point MT	MTMC	Mammal	Red wolf	FE		Possible
Sunny Point MT	MTMC	Reptile	Loggerhead sea turtle	FT	SE	Extirpated
Sunny Point MT	MTMC	Bird	Piping plover	FT	Adjacent	Possible
Sunny Point MT	MTMC	Bird	American peregrine falcon	FT		N
Sunny Point MT	MTMC	Reptile	American alligator	FTSA	SE	Possible
U.S. Military Academy	USMA	Mammal	Eastern woodrat	C2	SE	Current
U.S. Military Academy	USMA	Reptile	Bog turtle	C2		Current
U.S. Military Academy	USMA	Mammal	Eastern small-footed bat	C2		Possible
U.S. Military Academy	USMA	Bird	Migrant loggerhead shrike	C2		R
U.S. Military Academy	USMA	Bird	Bald eagle	FE		Possible
U.S. Military Academy	USMA	Mammal	Mountain lion	FE		Extirpated
U.S. Military Academy	USMA	Fish	Shortnose sturgeon	FE	Adjacent	HR
U.S. Military Academy	USMA	Mammal	Indiana bat	FE		Possible
U.S. Military Academy	USMA	Bird	American peregrine falcon	FE		N
U.S. Military Academy	USMA	Bird	Arctic peregrine falcon	FT		Possible
U.S. Military Academy	USMA	Bird	Golden eagle	SE		R

Appendix A (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
U.S. Military Academy	USMA	Bird	Interior least tern	SE	T	Possible R
U.S. Military Academy	USMA	Bird	Osprey	ST	M	Current
U.S. Military Academy	USMA	Bird	Northern harrier	ST	M	Current
U.S. Military Academy	USMA	Bird	Common tern	ST	M	Possible R
U.S. Military Academy	USMA	Reptile	Eastern mud turtle	ST	YR	Possible R
U.S. Military Academy	USMA	Amphibian	Northern cricket frog	ST	YR	Possible N
U.S. Military Academy	USMA	Reptile	Timber rattlesnake	ST	YR	Current
U.S. Military Academy	USMA	Bird	Red-shouldered hawk	ST	B	Possible N
Volunteer AAP	AMC	Bird	Appalachian Bewick's wren	C1	ST	Possible N
Volunteer AAP	AMC	Mollusk	Spiny river snail	C1	SE	Unlikely NH
Volunteer AAP	AMC	Mammal	Eastern woodrat	C2	YR	Possible R
Volunteer AAP	AMC	Amphibian	Hellbender	C2	YR	Possible R
Volunteer AAP	AMC	Mammal	Eastern small-footed bat	C2	M	Possible N
Volunteer AAP	AMC	Bird	Bachman's sparrow	C2	SE	Possible N
Volunteer AAP	AMC	Mollusk	Verrucose file snail	C2	SE	Possible N
Volunteer AAP	AMC	Crustacean	Chickamauga crayfish	C2	ST	Possible N
Volunteer AAP	AMC	Amphibian	Tennessee cave salamander	C2	ST	Possible N
Volunteer AAP	AMC	Mollusk	Onyx rocksнail	C2	SE	Unlikely NH
Volunteer AAP	AMC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible R
Volunteer AAP	AMC	Mollusk	Tubercled-blossom pearly mussel	FE	YR	Extirpated
Volunteer AAP	AMC	Mammal	Gray bat	FE	F	Possible N
Volunteer AAP	AMC	Bird	Interior least tern	FE	T	Possible N
Volunteer AAP	AMC	Bird	Bald eagle	FE	W	Possible N
Volunteer AAP	AMC	Mollusk	Pale lilliput pearly mussel	FE	YR	Possible R
Volunteer AAP	AMC	Mollusk	Orange-footed pearly mussel	FE	YR	Possible N
Volunteer AAP	AMC	Bird	American peregrine falcon	FE	T	Possible R
Volunteer AAP	AMC	Mammal	Florida panther	PE	YR	Possible HR
Volunteer AAP	AMC	Mammal	Indiana bat	FE	F	Possible R
Volunteer AAP	AMC	Mollusk	Cumberland monkeyface	FE	YR	Possible R
Volunteer AAP	AMC	Mollusk	Rough pigtoe	FE	YR	Unlikely NH
Volunteer AAP	AMC	Bird	Bachman's warbler	FE	M	Extirpated HR
Volunteer AAP	AMC	Bird	Red-cockaded woodpecker	FE	YR	Possible NH
Volunteer AAP	AMC	Mollusk	Dromedary pearly mussel	FE	YR	Possible N
Volunteer AAP	AMC	Mammal	Eastern cougar	FE	YR	Possible HR
Volunteer AAP	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Volunteer AAP	AMC	Bird	Arctic peregrine falcon	FT	T	Possible R
Volunteer AAP	AMC	Fish	Snail darter	FT	YR	Possible N
Volunteer AAP	AMC	Fish	Yellowfin madtom	FT	YR	Extirpated HR
Volunteer AAP	AMC	Mollusk	Eastern fanshell	PE	YR	Possible N
Volunteer AAP	AMC	Bird	American bittern	SE	M	Possible N
Volunteer AAP	AMC	Bird	Barn owl	SE	YR	Possible N
Volunteer AAP	AMC	Bird	Golden eagle	SE	T	Possible N
Volunteer AAP	AMC	Bird	Virginia rail	SE	YR	Possible R
Volunteer AAP	AMC	Bird	Osprey	SE	B	Possible N
Volunteer AAP	AMC	Bird	King rail	SE	B	Possible N
Volunteer AAP	AMC	Bird	Cooper's hawk	ST	YR	Possible N
Volunteer AAP	AMC	Bird	Bank swallow	ST	B	Possible N
Volunteer AAP	AMC	Bird	Yellow-crowned night heron	ST	B	Possible NH
Volunteer AAP	AMC	Bird	Least bittern	ST	B	Possible N
Volunteer AAP	AMC	Bird	Black-crowned night heron	ST	YR	Possible N
Volunteer AAP	AMC	Bird	Sandhill crane	ST	T	Possible N
Volunteer AAP	AMC	Bird	Northern harrier	ST	T	Possible N
Volunteer AAP	AMC	Bird	Great blue heron	ST	YR	Possible N
Volunteer AAP	AMC	Bird	Sharp-shinned hawk	ST	YR	Possible N
Volunteer AAP	AMC	Bird	Common moorhen	ST	T	Possible N

Status

3A ; 3C ; C1 - Category 1; C2 - Category 2; FE - Federally endangered FT - Federally threatened; FTSA - FT due to similarity of appearance; PE - Proposed endangered; SE - State endangered; ST - State threatened.

Residency

Adjacent - adjacent areas (may be affected); B - Breeding season; F - Foraging; M - Migration; PB - Post breeding; T - Transient; W - Winter season; YR - Year round.

Occurrence

Current - Known to occur on the installation presently or within very recent past; Extirpated - Species presently extirpated in the region but otherwise might have occurred; Likely - Likely to occur; Possible - May occur; Unlikely - Possible but unlikely to occur.

HR- Historic range; species historic range includes the installation; N - Nearby; species known to occur in the vicinity or within surrounding counties; NH - Nearby, Historic; historically known to occur as above; R - Range; species current range includes the installation.

APPENDIX B: ENDANGERED SPECIES LISTING SORTED BY SPECIES AND STATUS

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Bager AAP	AMC	Bird	Aradian flycatcher	ST	M	Possible R
Fort McCoy	FORSOCM	Bird	Acadian flycatcher	ST	M	Possible N
Redstone Arsenal	AMC	Crustacean	Alabama cave shrimp	FE	YR	Current
Anniston AD	AMC	Mollusk	Alabama live-bearing snail	C2	YR	Possible NH
Fort McClellan	TRADOC	Mollusk	Alabama live-bearing snail	C2	YR	Possible NH
Fort Benning	TRADOC	Mollusk	Albany snail	C2	YR	Possible N
Milan AAP	AMC	Reptile	Alligator snapping turtle	C2	YR	Possible R
Fort Campbell	FORSOCM	Reptile	Alligator snapping turtle	C2	ST	Possible N
Mississippi AAP	AMC	Reptile	American alligator	FTSA	YR	Possible R
Fort Jackson	TRADOC	Reptile	American alligator	FTSA	YR	Possible R
Fort Gordon	TRADOC	Reptile	American alligator	FTSA	YR	Possible R
Fort Benning	TRADOC	Reptile	American alligator	FTSA	YR	Possible R
Camp Blanding	NGB	Reptile	American alligator	FTSA	YR	Likely R
Sunny Point MT	MTMC	Reptile	American alligator	FTSA	YR	Possible N
Camp Shelby	NGB	Reptile	American alligator	FTSA	YR	Possible N
Redstone Arsenal	AMC	Reptile	American alligator	FTSA	YR	Possible N
Fort Bragg	FORSOCM	Reptile	American alligator	FTSA	YR	Current
Fort Stewart	FORSOCM	Reptile	American alligator	FTSA	YR	Current
Newport AAP	AMC	Bird	American bittern	SE	M	Possible R
Ravenna AAP	AMC	Bird	American bittern	SE	B	Possible N
Fort Campbell	FORSOCM	Bird	American bittern	SE	YR	Possible R
Volunteer AAP	AMC	Bird	American bittern	SE	M	Possible N
Lexington/Bluegrass	AMC	Bird	American bittern	SE	T	Possible NH
Savanna AD	AMC	Bird	American bittern	SE	B	Possible R
Picatinny Arsenal	AMC	Bird	American bittern	SE	M	Current
Camp Atterbury	NGB	Bird	American bittern	SE	B	Possible R
Indiana AAP	AMC	Bird	American bittern	SE	M	Possible R
Jefferson PG	AMC	Bird	American bittern	SE	M	Possible R
Fort Knox	TRADOC	Bird	American bittern	SE	T	Possible N
Joliet AAP	AMC	Bird	American bittern	SE	B	Likely N
Fort Dix	TRADOC	Bird	American bittern	ST	B	Possible R
Camp Edwards	NGB	Fish	American brook lamprey	ST	Adjacent	Possible R
Lexington/Bluegrass	AMC	Bird	American coot	SE		Possible R
Fort Knox	TRADOC	Bird	American coot	SE	T	Possible R
Fort Campbell	FORSOCM	Bird	American coot	SE	W	Possible N
Picatinny Arsenal	AMC	Bird	American peregrine falcon	FE	M	Possible R
Fort McCoy	FORSOCM	Bird	American peregrine falcon	FE	M	Current
Sunny Point MT	MTMC	Bird	American peregrine falcon	FE	W	Possible R
Fort Benning	TRADOC	Bird	American peregrine falcon	FE	M	Possible R
Fort Campbell	FORSOCM	Bird	American peregrine falcon	FE	T	Possible R
U.S. Military Academy	USMA	Bird	American peregrine falcon	FE	M	Possible R
Radford AAP	AMC	Bird	American peregrine falcon	FE	T	Possible R
Savanna AD	AMC	Bird	American peregrine falcon	FE	M	Possible R
Bager AAP	AMC	Bird	American peregrine falcon	FE	B	Unlikely R
Fort Devens	FORSOCM	Bird	American peregrine falcon	FE	M	Possible R
Anniston AD	AMC	Bird	American peregrine falcon	FE	T	Possible R
Camp Grayling	NGB	Bird	American peregrine falcon	FE	T	Unlikely R
Fort George Meade	FORSOCM	Bird	American peregrine falcon	FE	M	Possible R
Redstone Arsenal	AMC	Bird	American peregrine falcon	FE	T	Possible R
Volunteer AAP	AMC	Bird	American peregrine falcon	FE	T	Possible R
Seneca AD	AMC	Bird	American peregrine falcon	FE	M	Possible R
Camp Santiago	NGB	Bird	American peregrine falcon	FE	W	Possible R
Fort Pickett	FORSOCM	Bird	American peregrine falcon	FE	M	Possible R
Aberdeen PG	AMC	Bird	American peregrine falcon	FE	M	Possible R
Fort Drum	FORSOCM	Bird	American peregrine falcon	FE	M	Possible R
Mississippi AAP	AMC	Bird	American peregrine falcon	FE	M*	Possible R
Joliet AAP	AMC	Bird	American peregrine falcon	FE	M	Possible R
Fort Lee	TRADOC	Bird	American peregrine falcon	FE	M	Possible R
Fort Gordon	TRADOC	Bird	American peregrine falcon	FE	T	Possible R
Fort Stewart	FORSOCM	Bird	American peregrine falcon	FE	M	Possible R
Jefferson PG	AMC	Bird	American peregrine falcon	FE	M	Possible R
Camp Atterbury	NGB	Bird	American peregrine falcon	FE	M	Possible R
Fort Dix	TRADOC	Bird	American peregrine falcon	FE	M	Current
Fort Bragg	FORSOCM	Bird	American peregrine falcon	FE	YR	Possible N
Fort Story	TRADOC	Bird	American peregrine falcon	FE	W	Possible R
Fort Belvoir	MDW	Bird	American peregrine falcon	FE	M	Possible R
Fort Rucker	TRADOC	Bird	American peregrine falcon	FE	M	Possible R
Fort Jackson	TRADOC	Bird	American peregrine falcon	FE	T	Possible R
Camp Blanding	NGB	Bird	American peregrine falcon	FE	M	Possible R
Camp Edwards	NGB	Bird	American peregrine falcon	FE	W	Possible R
Fort McClellan	TRADOC	Bird	American peregrine falcon	FE	B*	Possible R
Camp Shelby	NGB	Bird	American peregrine falcon	FE	M	Unlikely R
Milan AAP	AMC	Bird	American peregrine falcon	FE	M	Possible R
Fort Eustis	TRADOC	Bird	American peregrine falcon	FE	W	Possible R
Ravenna AAP	AMC	Bird	American peregrine falcon	FE	B	Possible N
Fort Knox	TRADOC	Bird	American peregrine falcon	FE	M	Possible R
Indiana AAP	AMC	Bird	American peregrine falcon	FE	T	Possible R
Lexington/Bluegrass	AMC	Bird	American peregrine falcon	FE	M	Possible N
Fort Campbell	FORSOCM	Bird	Appalachian Bewick's wren	C1	ST	Possible R
Radford AAP	AMC	Bird	Appalachian Bewick's wren	C1	T	Possible N
Fort Gordon	TRADOC	Bird	Appalachian Bewick's wren	C1	B	Possible R
Lexington/Bluegrass	AMC	Bird	Appalachian Bewick's wren	C1	ST	Possible R
Fort Rucker	TRADOC	Bird	Appalachian Bewick's wren	C1	M	Unlikely R
Letterkenny AD	AMC	Bird	Appalachian Bewick's wren	C1	ST	Possible R
Milan AAP	AMC	Bird	Appalachian Bewick's wren	C1	ST	Possible R
Fort Jackson	TRADOC	Bird	Appalachian Bewick's wren	C1	YR	Possible N
			Appalachian Bewick's wren	C1	B	Possible R

Appendix B (continued)

Installation	MACOM	TAXON	Species	Status	Residency	Occurrence
Redstone Arsenal	AMC	Bird	Appalachian Bewick's wren	C1	ST	M
Anniston AD	AMC	Bird	Appalachian Bewick's wren	C1	ST	YR
Fort Knox	TRADOC	Bird	Appalachian Bewick's wren	C1	ST	YR
Volunteer AAP	AMC	Bird	Appalachian Bewick's wren	C1	ST	YR
Fort Stewart	FORSOM	Bird	Appalachian Bewick's wren	C1	ST	M
Fort McClellan	TRADOC	Bird	Appalachian Bewick's wren	C1	ST	YR
Fort Benning	TRADOC	Bird	Appalachian Bewick's wren	C1	ST	YR
Fort Eustis	TRADOC	Bird	Arctic peregrine falcon	FT		M
Camp Edwards	NGB	Bird	Arctic peregrine falcon	FT		M
Fort Drum	FORSOM	Bird	Arctic peregrine falcon	FT		M
Fort Stewart	FORSOM	Bird	Arctic peregrine falcon	FT		M
Fort George Meade	FORSOM	Bird	Arctic peregrine falcon	FT		M
Fort Indianstown Gap	FORSOM	Bird	Arctic peregrine falcon	FT		M
Bager AAP	AMC	Bird	Arctic peregrine falcon	FT		M
Fort McCoy	FORSOM	Bird	Arctic peregrine falcon	FT		M
Camp Santiago	NGB	Bird	Arctic peregrine falcon	FT		W
Aberdeen PG	AMC	Bird	Arctic peregrine falcon	FT		M
Camp Blanding	NGB	Bird	Arctic peregrine falcon	FT		W
Ravenna AAP	AMC	Bird	Arctic peregrine falcon	FT		M
Fort Jackson	TRADOC	Bird	Arctic peregrine falcon	FT		M
Joliet AAP	AMC	Bird	Arctic peregrine falcon	FT		M
Fort Story	TRADOC	Bird	Arctic peregrine falcon	FT		M
Anniston AD	AMC	Bird	Arctic peregrine falcon	FT	T	Unlikely
Letterkenny AD	AMC	Bird	Arctic peregrine falcon	FT	M	Possible
Seneca AD	AMC	Bird	Arctic peregrine falcon	FT	M	Possible
Fort Benning	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible
Fort Knox	TRADOC	Bird	Arctic peregrine falcon	FT	T	Possible
Picatinny Arsenal	AMC	Bird	Arctic peregrine falcon	FT	M	Possible
Volunteer AAP	AMC	Bird	Arctic peregrine falcon	FT	T	Possible
U.S. Military Academy	USMA	Bird	Arctic peregrine falcon	FT	M	Possible
Fort Dix	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible
Fort Devens	FORSOM	Bird	Arctic peregrine falcon	FT	M	Possible
Jefferson PG	AMC	Bird	Arctic peregrine falcon	FT	M	Possible
Mississippi AAP	AMC	Bird	Arctic peregrine falcon	FT	M	Possible
Redstone Arsenal	AMC	Bird	Arctic peregrine falcon	FT	T	Possible
Sunny Point MT	MTMC	Bird	Arctic peregrine falcon	FT	W	Possible
Fort Bragg	FORSOM	Bird	Arctic peregrine falcon	FT	W	Possible
Fort Gordon	TRADOC	Bird	Arctic peregrine falcon	FT	M	Possible
Camp Grayling	NGB	Bird	Arctic peregrine falcon	FT	T	Possible
Milan AAP	AMC	Bird	Arctic peregrine falcon	FT	M	Possible
Fort McClellan	TRADOC	Bird	Arctic Peregrine falcon	FT	M	Possible
Fort Campbell	FORSOM	Bird	Arctic peregrine falcon	FT	T	Unlikely
Indiana AAP	AMC	Bird	Arctic peregrine falcon	FT	T	Possible
Lexington/Bluegrass	AMC	Bird	Arctic peregrine falcon	FT	M	Possible
Fort Rucker	TRADOC	Bird	Arctic peregrine falcon	FT	T	Possible
Savanna AD	AMC	Bird	Arctic peregrine falcon	FT	M	Unlikely
Fort Campbell	FORSOM	Mollusk	Armored rocksnail	C2	YR	Possible
Fort Story	TRADOC	Reptile	Atlantic leatherback	FE	Adjacent	Possible
Fort Eustis	TRADOC	Reptile	Atlantic loggerhead turtle	FT		Possible
Aberdeen PG	AMC	Reptile	Atlantic loggerhead turtle	FT		Possible
Mississippi AAP	AMC	Fish	Atlantic sturgeon	SE	YR	Likely
Fort Campbell	FORSOM	Bird	Bachman's sparrow	C2	SE	B
Sunny Point MT	MTMC	Bird	Bachman's sparrow	C2	YR	Possible
Volunteer AAP	AMC	Bird	Bachman's sparrow	C2	SE	B
Fort Bragg	FORSOM	Bird	Bachman's sparrow	C2	ST	Current
Fort George Meade	FORSOM	Bird	Bachman's sparrow	C2	SE	B
Camp Atterbury	NGB	Bird	Bachman's sparrow	C2	ST	Possible
Milan AAP	AMC	Bird	Bachman's sparrow	C2	SE	HR
Fort Knox	TRADOC	Bird	Bachman's sparrow	C2	SE	Possible
Lexington/Bluegrass	AMC	Bird	Bachman's sparrow	C2	ST	Possible
Camp Shelby	NGB	Bird	Bachman's sparrow	C2	ST	Possible
Fort Eustis	TRADOC	Bird	Bachman's warbler	FE	YR	N
Fort Story	TRADOC	Bird	Bachman's warbler	FE	M	Extirpated
Anniston AD	AMC	Bird	Bachman's warbler	FE	T	Extirpated
Fort Stewart	FORSOM	Bird	Bachman's warbler	FE	B	Extirpated
Camp Blanding	NGB	Bird	Bachman's warbler	FE	W	Extirpated
Fort Lee	TRADOC	Bird	Bachman's warbler	FE	M	Extirpated
Sunny Point MT	MTMC	Bird	Bachman's warbler	FE	T	Extirpated
Fort Bragg	FORSOM	Bird	Bachman's warbler	FE	B	Extirpated
Fort Belvoir	MDW	Bird	Bachman's warbler	FE	T	Extirpated
Fort Rucker	TRADOC	Bird	Bachman's warbler	FE	B	Extirpated
Fort Pickett	FORSOM	Bird	Bachman's warbler	FE	M	Extirpated
Redstone Arsenal	AMC	Bird	Bachman's warbler	FE	T	Extirpated
Fort Jackson	TRADOC	Bird	Bachman's warbler	FE	B	Extirpated
Mississippi AAP	AMC	Bird	Bachman's warbler	FE	T	Extirpated
Fort Campbell	FORSOM	Bird	Bachman's warbler	FE	B	Extirpated
Milan AAP	AMC	Bird	Bachman's warbler	FE	M	Extirpated
Volunteer AAP	AMC	Bird	Bachman's warbler	FE	M	Extirpated
Radford AAP	AMC	Bird	Bachman's warbler	FE	M	Extirpated
Fort McClellan	TRADOC	Bird	Bachman's warbler	FE	T	Extirpated
Camp Atterbury	NGB	Mammal	Badger	ST	YR	Current
Indiana AAP	AMC	Mammal	Badger	ST	YR	Possible
Lexington/Bluegrass	AMC	Bird	Bald eagle	FE	W	Possible
Fort Eustis	TRADOC	Bird	Bald eagle	FE	B	Current
Fort Jackson	TRADOC	Bird	Bald eagle	FE	T	Possible
Fort Rucker	TRADOC	Bird	Bald eagle	FE	F	N

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence	
Fort Bragg	FORSCOM	Bird	Bald eagle	FE	YR	Possible	R
Fort Stewart	FORSCOM	Bird	Bald eagle	FE	X	Likely	N
Camp Atterbury	NGB	Bird	Bald eagle	FE	X	Current	
Indiana AAP	AMC	Bird	Bald eagle	FE	X	Possible	N
Picatinny Arsenal	AMC	Bird	Bald eagle	FE	?	Possible	R
Fort McClellan	TRADOC	Bird	Bald eagle	FE	?	Possible	N
Fort Drum	FORSCOM	Bird	Bald eagle	FE	?	Possible	R
Fort Gordon	TRADOC	Bird	Bald eagle	FE	?	Possible	N
Redstone Arsenal	AMC	Bird	Bald eagle	FE	?	Current	
Fort George Meade	FORSCOM	Bird	Bald eagle	FE	?	Possible	N
Savanna AD	AMC	Bird	Bald eagle	FE	YR	Current	
Camp Edwards	NGB	Bird	Bald eagle	FE	?	Possible	N
Joliet AAP	AMC	Bird	Bald eagle	FE	X	Current	N
Fort Campbell	FORSCOM	Bird	Bald eagle	FE	YR	Likely	N
Fort Lee	TRADOC	Bird	Bald eagle	FE	?	Current	
Camp Blanding	NGB	Bird	Bald eagle	FE	?	Possible	N
Newport AAP	AMC	Bird	Bald eagle	FE	?	Possible	N
Milan AAP	AMC	Bird	Bald eagle	FE	?	Possible	R
Aberdeen PG	AMC	Bird	Bald eagle	FE	?	Possible	N
Fort Devens	FORSCOM	Bird	Bald eagle	FE	?	Possible	N
Volunteer AAP	AMC	Bird	Bald eagle	FE	?	Possible	N
Seneca AD	AMC	Bird	Bald eagle	FE	?	Possible	N
U.S. Military Academy	USMA	Bird	Bald eagle	FE	?	Possible	N
Fort Knox	TRADOC	Bird	Bald eagle	FE	M	Current	
Fort Belvoir	MDW	Bird	Bald eagle	FE	F	Possible	N
Sunny Point MT	MTMC	Bird	Bald eagle	FE	?	Possible	R
Jefferson PG	AMC	Bird	Bald eagle	FE	?	Possible	R
Fort Benning	TRADOC	Bird	Bald eagle	FE	?	Possible	R
Mississippi AAP	AMC	Bird	Bald eagle	FE	F	Possible	R
Anniston AD	AMC	Bird	Bald eagle	FE	?	Possible	N
Bager AAP	AMC	Bird	Bald eagle	FT	?	Possible	N
Camp Grayling	NGB	Bird	Bald eagle	FT	?	Current	
Fort McCoy	FORSCOM	Bird	Bald eagle	FT	?	Possible	N
Fort Campbell	FORSCOM	Bird	Bank swallow	ST	B	Possible	N
Volunteer AAP	AMC	Bird	Bank swallow	ST	B	Possible	N
Jefferson PG	AMC	Bird	Barn owl	SE	YR	Possible	N
Indiana AAP	AMC	Bird	Barn owl	SE	YR	Possible	R
Savanna AD	AMC	Bird	Barn owl	SE	YR	Possible	N
Joliet AAP	AMC	Bird	Barn owl	SE	YR	Possible	N
Ravenna AAP	AMC	Bird	Barn owl	SE	?	Possible	R
Newport AAP	AMC	Bird	Barn owl	SE	?	Possible	R
Volunteer AAP	AMC	Bird	Barn owl	SE	?	Possible	N
Fort Campbell	FORSCOM	Bird	Barn owl	SE	?	Possible	R
Camp Atterbury	NGB	Bird	Barn owl	SE	?	Possible	R
Bager AAP	AMC	Bird	Barn owl	SE	?	Possible	R
Fort Dix	TRADOC	Bird	Barred owl	ST	YR	Possible	N
Picatinny Arsenal	AMC	Bird	Barred owl	ST	YR	Possible	N
Fort Dix	TRADOC	Insect	Barrens blue damselfly	C2	SE	?	Current
Fort Knox	TRADOC	Mollusk	Bean villoso	C2	SE	YR	Possible
Fort McCoy	FORSCOM	Bird	Bell's vireo	ST	?	Possible	NH
Camp Atterbury	NGB	Bird	Bewick's wren	SE	B	Possible	R
Ravenna AAP	AMC	Bird	Bewick's wren	SE	B	Possible	NH
Joliet AAP	AMC	Bird	Bewick's wren	ST	M	Possible	N
Joliet AAP	AMC	Fish	Bigeye shiner	ST	YR	Possible	N
Redstone Arsenal	AMC	Mollusk	Birdwing pearly mussel	FE	YR	Possible	N
Fort Campbell	FORSCOM	Amphibian	Bird-voiced tree frog	ST	YR	Possible	NH
Mississippi AAP	AMC	Reptile	Black pine snake	C2	SE	YR	Possible
Camp Shelby	NGB	Reptile	Black pine snake	C2	SE	YR	Possible
Fort Dix	TRADOC	Bird	Black rail	ST	B	Current	
Picatinny Arsenal	AMC	Bird	Black rail	ST	T	Possible	N
Savanna AD	AMC	Bird	Black tern	SE	M	Possible	N
Joliet AAP	AMC	Bird	Black tern	SE	B	Possible	N
Fort Lee	TRADOC	Fish	Blackbanded sunfish	SE	?	Possible	N
Fort Knox	TRADOC	Bird	Blackburnian warbler	SE	YR	Current	
Joliet AAP	AMC	Fish	Blacknose shiner	ST	YR	Possible	R
Camp Atterbury	NGB	Bird	Black-crowned night heron	SE	B	Current	
Savanna AD	AMC	Bird	Black-crowned night heron	SE	?	Possible	
Fort Campbell	FORSCOM	Bird	Black-crowned night heron	SE	F	Possible	R
Newport AAP	AMC	Bird	Black-crowned night heron	SE	M	Possible	N
Fort Knox	TRADOC	Bird	Black-crowned night heron	SE	B	Possible	N
Joliet AAP	AMC	Bird	Black-crowned night heron	SE	B	Likely	N
Indiana AAP	AMC	Bird	Black-crowned night heron	SE	M	Possible	NH
Lexington/Bluegrass	AMC	Bird	Black-crowned night heron	SE	B	Possible	R
Milan AAP	AMC	Bird	Black-crowned night heron	SE	YR	Possible	N
Volunteer AAP	AMC	Bird	Black-crowned night heron	ST	YR	Possible	N
Bager AAP	AMC	Amphibian	Blanchard's cricket frog	SE	?	Possible	N
Fort McCoy	FORSCOM	Amphibian	Blanchard's cricket frog	SE	YR	Possible	N
Fort McCoy	FORSCOM	Reptile	Blanding's turtle	ST	YR	Current	
Bager AAP	AMC	Reptile	Blanding's turtle	ST	YR	Current	
Fort Devens	FORSCOM	Reptile	Blanding's turtle	ST	YR	Possible	N
Fort McClellan	TRADOC	Fish	Blue shiner	C2	YR	Possible	N
Anniston AD	AMC	Fish	Blue shiner	C2	YR	Possible	N
Newport AAP	AMC	Fish	Blue sucker	C2	YR	Possible	N
Fort Campbell	FORSCOM	Fish	Blue sucker	C2	YR	Possible	N
Fort Knox	TRADOC	Fish	Blue sucker	C2	YR	Possible	N
Bager AAP	AMC	Fish	Blue sucker	C2	YR	Possible	N
				SE	Adjacent		

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrance	
Indiana AAP	AMC	Fish	Blue sucker	C2	YR	Possible N	
Fort Benning	TRADOC	Fish	Bluestripe shiner	C2	YR	Possible R	
Picatinny Arsenal	AMC	Amphibian	Blue-spotted salamander	SE	YR	Possible N	
Fort Campbell	FORSCOM	Bird	Blue-winged teal	SE	M	Possible R	
Fort Knox	TRADOC	Bird	Blue-winged teal	SE	T	Possible R	
Camp Atterbury	NGB	Mammal	Bobcat	SE	YR	Possible N	
Jefferson PG	AMC	Mammal	Bobcat	SE	YR	Possible N	
Indiana AAP	AMC	Mammal	Bobcat	ST	YR	Possible R	
Joliet AAP	AMC	Mammal	Bobcat	ST	YR	Possible N	
Savanna AD	AMC	Mammal	Bobcat	ST	B	Possible N	
Picatinny Arsenal	AMC	Bird	Bobolink	ST	M	Possible R	
Fort Dix	TRADOC	Bird	Bobolink	ST	SE	Current	
Picatinny Arsenal	AMC	Reptile	Bog turtle	C2	SE	YR	
Fort Dix	TRADOC	Reptile	Bog turtle	C2	SE	Possible N	
Letterkenny AD	AMC	Reptile	Bog turtle	C2	SE	Likely N	
Seneca AD	AMC	Reptile	Bog turtle	C2	SE	Possible R	
U.S. Military Academy	USMA	Reptile	Bog turtle	C2	YR	Current	
Aberdeen PG	AMC	Reptile	Bog turtle	C2	YR	Current UC	
Fort Indiantown Gap	FORSCOM	Reptile	Bog turtle	C2	ST	Likely N	
Fort Dix	TRADOC	Fish	Brook trout	ST	YR	Possible R	
Picatinny Arsenal	AMC	Fish	Brook trout	ST	YR	Current	
Joliet AAP	AMC	Bird	Brown creeper	ST	B	Possible N	
Savanna AD	AMC	Bird	Brown creeper	ST	YR	Current	
Camp Santiago	NGB	Bird	Brown pelican	FE	T	Possible N	
Fort Stewart	FORSCOM	Bird	Brown pelican	SE	YR	Possible N	
Mississippi AAP	AMC	Bird	Brown pelican	SE	T	Possible R	
Fort Dix	TRADOC	Insect	Bucholzi's dart moth	C2	ST	Possible N	
Bager AAP	AMC	Mollusk	Buckhorn	ST	YR	Possible N	
Letterkenny AD	AMC	Insect	Buckmoth	ST	YR	Possible N	
Fort Eustis	TRADOC	Reptile	Canebrake rattlesnake	RSE	YR	Possible N	
Fort Bragg	FORSCOM	Mollusk	Cape Fear spike pearly mussel	C2	ST	Possible N	
Sunny Point MT	MTMC	Amphibian	Carolina gopher frog	C2	YR	Current	
Bager AAP	AMC	Bird	Caspian tern	SE	M	Possible R	
Fort McCoy	FORSCOM	Bird	Caspian tern	SE	M	Current	
Fort McCoy	FORSCOM	Bird	Cerulean warbler	ST	B	Possible N	
Bager AAP	AMC	Bird	Cerulean warbler	ST	M	Possible R	
Volunteer AAP	AMC	Crustacean	Chickamauga crayfish	C2	ST	Possible N	
Fort Rucker	TRADOC	Mollusk	Choctaw bean	C2	YR	Possible HR	
Camp Grayling	NGB	Fish	Cisco	ST	YR	Possible R	
Fort Dix	TRADOC	Bird	Cliff swallow	SE	M	Possible R	
Picatinny Arsenal	AMC	Bird	Cliff swallow	SE	M	Current	
Newport AAP	AMC	Mollusk	Clubshell	C2	SE	Possible N	
Anniston AD	AMC	Fish	Coldwater darter	C2	YR	Possible N	
Fort McClellan	TRADOC	Fish	Coldwater darter	C2	YR	Possible N	
Camp Grayling	NGB	Bird	Common loon	ST	B, F	Possible N	
Fort Campbell	FORSCOM	Bird	Common moorhen	SE	B	Possible R	
Fort Knox	TRADOC	Bird	Common moorhen	SE	T	Possible N	
Joliet AAP	AMC	Bird	Common moorhen	ST	B	Possible N	
Volunteer AAP	AMC	Bird	Common moorhen	ST	T	Possible N	
Joliet AAP	AMC	Bird	Common tern	SE	M	Possible N	
Seneca AD	AMC	Bird	Common tern	ST	M	Possible N	
Fort Drum	FORSCOM	Bird	Common tern	ST	M	Possible R	
U.S. Military Academy	USMA	Bird	Common tern	ST	M	Possible R	
Fort Dix	TRADOC	Bird	Cooper's hawk	C2	SE	W	Possible N
Joliet AAP	AMC	Bird	Cooper's hawk	SE	YR	Possible N	
Picatinny Arsenal	AMC	Bird	Cooper's hawk	SE	T	Current	
Fort Campbell	FORSCOM	Bird	Cooper's hawk	SE	YR	Possible N	
Savanna AD	AMC	Bird	Cooper's hawk	SE	YR	Current	
Milan AAP	AMC	Bird	Cooper's hawk	ST	YR	Possible N	
Volunteer AAP	AMC	Bird	Cooper's hawk	ST	YR	Possible N	
Fort Campbell	FORSCOM	Reptile	Copperbelly water snake	C2	YR	Possible N	
Milan AAP	AMC	Reptile	Copperbelly water snake	C2	YR	Possible R	
Fort Knox	TRADOC	Reptile	Copperbelly water snake	C2	YR	Possible R	
Fort Dix	TRADOC	Reptile	Corn snake	SE	YR	Possible N	
Fort Knox	TRADOC	Mollusk	Cracking pearly mussel	FE	YF	Possible NH	
Joliet AAP	AMC	Mollusk	Cracking pearly mussel	FE	YR	Possible N	
Joliet AAP	AMC	Mollusk	Creek heelsplitter	ST	YR	Possible N	
Fort Campbell	FORSCOM	Mollusk	Cumberland combshell	C2	SE	YR	Possible NH
Volunteer AAP	AMC	Mollusk	Cumberland monk'yface	FE	YR	Possible R	
Fort Dix	TRADOC	Insect	Daeke's pyralid moth	C2	YR	Possible N	
Camp Grayling	NGB	Mollusk	Deep water pond snail	ST	YR	Possible N	
Joliet AAP	AMC	Bird	Double-crested cormorant	SE	M	Possible N	
Fort Knox	TRADOC	Bird	Double-crested cormorant	SE	T	Possible R	
Savanna AD	AMC	Bird	Double-crested cormorant	SE	M	Possible N	
Fort Campbell	FORSCOM	Bird	Double-crested cormorant	SE	W	Possible R	
Redstone Arsenal	AMC	Mollusk	Dromedary pearly mussel	FE	YR	Unlikely NH	
Volunteer AAP	AMC	Mollusk	Dromedary pearly mussel	FE	YR	Possible N	
Fort Campbell	FORSCOM	Mollusk	Dromedary pearly mussel	FE	YR	Unlikely NH	
Mississippi AAP	AMC	Amphibian	Dusky gopher frog	C2	YR	Possible R	
Savanna AD	AMC	Reptile	Dusty hognose snake	ST	YR	Likely N	
Fort Pickett	FORSCOM	Mollusk	Dwarf wedge mussel	FE	YR	Possible N	
Fort Story	TRADOC	Reptile	Eastern chicken turtle	SE	YR	Possible N	
Milan AAP	AMC	Mammal	Eastern cougar	FE	YR	Unlikely HR	
Lexington/Bluegrass	AMC	Mammal	Eastern cougar	FE	YR	Extirpated HR	
Volunteer AAP	AMC	Mammal	Eastern cougar	FE	YR	Possible HR	
Fort Bragg	FORSCOM	Mammal	Eastern cougar	FE	YR	Extirpated N	

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Sunny Point MT	MTMC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Knox	TRADOC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Jackson	TRADOC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Gordon	TRADOC	Mammal	Eastern cougar	FE	T	Unlikely HR
Fort Campbell	FORSCOM	Mammal	Eastern cougar	FE	YR	Possible HR
Radford AAP	AMC	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Devens	FORSCOM	Mammal	Eastern cougar	FE	YR	Extirpated HR
Fort Stewart	FORSCOM	Mammal	Eastern cougar	FE	T	Possible HR
Fort Benning	TRADOC	Mammal	Eastern cougar	FE	T	Unlikely HR
Fort Campbell	FORSCOM	Mollusk	Eastern fanshell	PE	YR	Possible NH
Volunteer AAP	AMC	Mollusk	Eastern fanshell	PE	YR	Possible N
Fort Knox	TRADOC	Mollusk	Eastern fanshell	PE	ST	YR Possible NH
Fort Gordon	TRADOC	Reptile	Eastern indigo snake	FT	YR	Possible HR
Camp Shelby	NGB	Reptile	Eastern indigo snake	FT	YR	Possible R
Fort Stewart	FORSCOM	Reptile	Eastern indigo snake	FT	YR	Possible N
Fort Rucker	TRADOC	Reptile	Eastern indigo snake	FT	YR	Extirpated HR
Mississippi AAP	AMC	Reptile	Eastern indigo snake	FT	YR	Possible R
Camp Blanding	NGB	Reptile	Eastern indigo snake	FT	YR	Likely N
Fort Story	TRADOC	Bird	Eastern least tern	RSE	B	Likely N
Fort Eustis	TRADOC	Bird	Eastern least tern	RSE	B	Likely N
Fort Dix	TRADOC	Bird	Eastern least tern	SE	T	Possible N
Bager AAP	AMC	Reptile	Eastern massasauga	C2	SE	YR Possible N
Szanna AD	AMC	Reptile	Eastern massasauga	C2	SE	YR Possible N
Ravenna AAP	AMC	Reptile	Eastern massasauga	C2	SE	YR Possible NH
Fort McCoy	FORSCOM	Reptile	Eastern massasauga	C2	SE	YR Possible N
U.S. Military Academy	USMA	Reptile	Eastern mud turtle	ST	YR	Possible R
Ravenna AAP	AMC	Mollusk	Eastern pondmussel	SE	YR	Possible N
Newport AAP	AMC	Fish	Eastern sand darter	C2	YR	Possible N
Camp Atterbury	NGB	Fish	Eastern sand darter	C2	YR	Possible N
Fort Knox	TRADOC	Fish	Eastern sand darter	C2	YR	Possible R
Lexington/Bluegrass	AMC	Fish	Eastern sand darter	C2	YR	Possible N
Jefferson PG	AMC	Fish	Eastern sand darter	C2	YR	Possible N
Fort Devens	FORSCOM	Mammal	Eastern small-footed bat	C2	SE	F, M Possible R
Fort Knox	TRADOC	Mammal	Eastern small-footed bat	C2	SE	YR Possible R
Camp Edwards	NGB	Mammal	Eastern small-footed bat	C2	F, M	Possible R
Fort Dix	TRADOC	Mammal	Eastern small-footed bat	C2	T	Possible HR
Volunteer AAP	AMC	Mammal	Eastern small-footed bat	C2	M	Possible N
Lexington/Bluegrass	AMC	Mammal	Eastern small-footed bat	C2	F, M	Possible R
Fort George Meade	FORSCOM	Mammal	Eastern small-footed bat	C2	M	Possible R
Letterkenny AD	AMC	Mammal	Eastern small-footed bat	C2	SE	M Possible R
U.S. Military Academy	USMA	Mammal	Eastern small-footed bat	C2	B	Possible R
Aberdeen PG	AMC	Mammal	Eastern small-footed bat	C2	M	Possible R
Fort Campbell	FORSCOM	Mammal	Eastern small-footed bat	C2	YR	Possible R
Camp Edwards	NGB	Amphibian	Eastern spadefoot toad	ST	YR	Possible N
Fort Dix	TRADOC	Amphibian	Eastern tiger salamander	SE	YR	Possible N
Fort Knox	TRADOC	Mammal	Eastern woodrat	C2	YR	Possible N
Picatinny Arsenal	AMC	Mammal	Eastern woodrat	C2	ST	YR Current
Volunteer AAP	AMC	Mammal	Eastern woodrat	C2	YR	Possible R
Lexington/Bluegrass	AMC	Mammal	Eastern woodrat	C2	YR	Possible N
U.S. Military Academy	USMA	Mammal	Eastern woodrat	C2	SE	YR Current
Joliet AAP	AMC	Mollusk	Elephant ear	ST	YR	Possible N
Savanna AD	AMC	Mollusk	Elephant ear	ST	YR	Possible NH
Lexington/Bluegrass	AMC	Mammal	Evening bat	SE	B	Possible R
Newport AAP	AMC	Mammal	Evening bat	SE	B	Possible N
Jefferson PG	AMC	Mammal	Evening bat	SE	B	Possible R
Fort Campbell	FORSCOM	Mammal	Evening bat	SE	B	Possible R
Camp Atterbury	NGB	Mammal	Evening bat	SE	B	Possible N
Indiana AAP	AMC	Mammal	Evening bat	SE	F, M	Possible N
Fort Knox	TRADOC	Mammal	Evening bat	ST	B	Possible R
Redstone Arsenal	AMC	Mollusk	Fanshell	C2	YR	Possible NH
Newport AAP	AMC	Mollusk	Fanshell	PE	YR	Possible N
Newport AAP	AMC	Mollusk	Fat pocketbook	FE	YR	Possible N
Fort Knox	TRADOC	Mollusk	Fat pocketbook	FE	YR	Possible NH
Radford AAP	AMC	Fish	Finescale saddled darter	C2	YR	Possible N
Anniston AD	AMC	Mollusk	Fine-lined pocketbook	C2	YR	Possible NH
Fort McClellan	TRADOC	Mollusk	Fine-lined pocketbook	C2	YR	Possible NH
Redstone Arsenal	AMC	Mollusk	Fine-rayed pigtoe	FE	YR	Possible NH
Camp Blanding	NGB	Mammal	Florida black bear	C2	ST	T Possible N
Camp Blanding	NGB	Mammal	Florida panther	FE	YR	Unlikely HR
Camp Shelby	NGB	Mammal	Florida panther	FE	YR	Unlikely HR
Fort Gordon	TRADOC	Mammal	Florida panther	FE	T	Unlikely HR
Fort Stewart	FORSCOM	Mammal	Florida panther	FE	T	Possible HR
Redstone Arsenal	AMC	Mammal	Florida panther	FE	YR	Extirpated HR
Fort Rucker	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR
Mississippi AAP	AMC	Mammal	Florida panther	FE	YR	Possible HR
Fort Benning	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR
Volunteer AAP	AMC	Mammal	Florida panther	FE	YR	Possible HR
Fort McClellan	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR
Anniston AD	AMC	Mammal	Florida panther	FE	YR	Extirpated HR
Fort Jackson	TRADOC	Mammal	Florida panther	FE	YR	Extirpated HR
Camp Blanding	NGB	Bird	Florida scrub jay	FT	YR	Current
Joliet AAP	AMC	Bird	Forster's tern	SE	B	Former HR
Bager AAP	AMC	Bird	Forster's tern	SE	M	Possible R
Mississippi AAP	AMC	Fish	Frecklebellied madtom	C2	SE	YR Possible N
Camp Edwards	NGB	Insect	Gerhard's underwing moth	ST	YR	Current
Fort McCoy	FORSCOM	Insect	Giant carrion beetle	FE	YR	Possible NH

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Fort McCoy	FORSCOM	Fish	Gilt darter	ST	YR	Possible N
Camp Santiago	NGB	Reptile	Golden coqui	FE	YR	Possible N
Fort Campbell	FORSCOM	Bird	Golden eagle	SE	W	Possible R
Fort Drum	FORSCOM	Bird	Golden eagle	SE	M	Possible R
Volunteer AAP	AMC	Bird	Golden eagle	SE	T	Possible N
Seneca AD	AMC	Bird	Golden eagle	SE	M	Possible R
Fort Jackson	TRADOC	Bird	Golden eagle	SE	T	Possible R
U.S. Military Academy	USMA	Bird	Golden eagle	SE	M	Current
Camp Atterbury	NGB	Bird	Golden-winged warbler	SE	B	Possible R
Bager AAP	AMC	Fish	Goldeye	SE	YR	Possible N
Fort Campbell	FORSCOM	Mollusk	Golf-stick pearly mussel	FE	YR	Unlikely NH
Camp Blanding	NGB	Amphibian	Gopher frog	C2	YR	Current
Fort Rucker	TRADOC	Reptile	Gopher tortoise	C2	ST	Extirpated HR
Camp Blanding	NGB	Reptile	Gopher tortoise	C2	YR	Current
Fort Stewart	FORSCOM	Reptile	Gopher tortoise	C2	YR	Current
Fort Gordon	TRADOC	Reptile	Gopher tortoise	C2	YR	Possible HR
Fort Benning	TRADOC	Reptile	Gopher tortoise	FE	YR	Current
Camp Shelby	NGB	Reptile	Gopher tortoise	FT	YR	Current
Mississippi AAP	AMC	Reptile	Gopher tortoise	FT	YR	Possible R
Fort Campbell	FORSCOM	Bird	Grasshopper sparrow	SE	B	Possible N
Fort Dix	TRADOC	Bird	Grasshopper sparrow	ST	B	Possible N
Letterkenny AD	AMC	Bird	Grasshopper sparrow	ST	B	Current
Fort Indiantown Gap	FORSCOM	Bird	Grasshopper sparrow	ST	B	Possible N
Milan AAP	AMC	Bird	Grasshopper sparrow	ST	B	Possible N
Picatinny Arsenal	AMC	Bird	Grasshopper sparrow	ST	B	Possible N
Jefferson PG	AMC	Mammal	Gray bat	FE	PB	Possible N
Lexington/Bluegrass	AMC	Mammal	Gray bat	FE	F	Possible N
Milan AAP	AMC	Mammal	Gray bat	FE	F, M	Possible R
Anniston AD	AMC	Mammal	Gray bat	FE	F, M	Possible HR
Volunteer AAP	AMC	Mammal	Gray bat	FE	F	Possible N
Camp Atterbury	NGB	Mammal	Gray bat	FE	PB	Possible N
Fort Knox	TRADOC	Mammal	Gray bat	FE	YR	Current
Fort McClellan	TRADOC	Mammal	Gray bat	FE	F	Possible N
Redstone Arsenal	AMC	Mammal	Gray bat	FE	PB	Possible N
Indiana AAP	AMC	Mammal	Gray bat	FE	F	Likely N
Fort Campbell	FORSCOM	Mammal	Gray bat	FE	YR	Possible R
Milan AAP	AMC	Bird	Great blue heron	ST	YR	Possible R
Volunteer AAP	AMC	Bird	Great blue heron	ST	YR	Possible N
Fort Campbell	FORSCOM	Bird	Great blue heron	ST	YR	Possible R
Fort Dix	TRADOC	Bird	Great blue heron	ST	YR	Possible N
Picatinny Arsenal	AMC	Bird	Great blue heron	ST	YR	Current
Jefferson PG	AMC	Bird	Great egret	SE	M	Possible R
Joliet AAP	AMC	Bird	Great egret	SE	B	Likely N
Savanna AD	AMC	Bird	Great egret	SE	B	Current
Fort Knox	TRADOC	Bird	Great egret	SE	T	Possible R
Newport AAP	AMC	Bird	Great egret	SE	PB	Possible R
Indiana AAP	AMC	Bird	Great egret	SE	M	Possible R
Camp Atterbury	NGB	Bird	Great egret	SE	PB	Possible R
Fort Campbell	FORSCOM	Bird	Great egret	ST	B, PB	Possible N
Fort McClellan	FORSCOM	Bird	Great egret	ST	B	Possible N
Bager AAP	AMC	Bird	Great egret	ST	B	Possible N
Sunny Point MT	MTMC	Reptile	Green turtle	FE	Adjacent	Possible R
Fort Story	TRADOC	Reptile	Green turtle	FT	Adjacent	Possible N
Mississippi AAP	AMC	Fish	Gulf sturgeon	C2	YR	Likely R
Fort Eustis	TRADOC	Bird	Gull-billed tern	RSE	T	Possible R
Fort Story	TRADOC	Bird	Gull-billed tern	RSE	T	Possible R
Sunny Point MT	MTMC	Reptile	Hawksbill turtle	FE	Adjacent	Possible R
Picatinny Arsenal	AMC	Insect	Hebard's noctuid moth	C2	Possible N	
Aberdeen PG	AMC	Amphibian	Hellbender	C2	SE	Possible R
Fort Knox	TRADOC	Amphibian	Hellbender	C2	YR	Possible R
Volunteer AAP	AMC	Amphibian	Hellbender	C2	YR	Possible R
Radford AAP	AMC	Amphibian	Hellbender	C2	YR	Possible N
Lexington/Bluegrass	AMC	Amphibian	Hellbender	C2	YR	Possible R
Indiana AAP	AMC	Amphibian	Hellbender	C2	SE	Current
Fort Campbell	FORSCOM	Amphibian	Hellbender	C2	YR	Possible N
Fort Story	TRADOC	Bird	Henslow's sparrow	RSE	B	Possible N
Fort Pickett	FORSCOM	Bird	Henslow's sparrow	RSE	B	Possible R
Fort Lee	TRADOC	Bird	Henslow's sparrow	RSE	B	Possible R
Fort Belvoir	MDW	Bird	Henslow's sparrow	RSE	B	Possible R
Fort Devens	FORSCOM	Bird	Henslow's sparrow	SE	B	Possible R
Camp Edwards	NGB	Bird	Henslow's sparrow	SE	B	Possible R
Jefferson PG	AMC	Bird	Henslow's sparrow	ST	B	Possible R
Camp Atterbury	NGB	Bird	Henslow's sparrow	ST	B	Possible R
Joliet AAP	AMC	Bird	Henslow's sparrow	ST	B	Likely N
Letterkenny AD	AMC	Bird	Henslow's sparrow	ST	B	Current
Savanna AD	AMC	Mollusk	Higgins eye pearly mussel	FE	YR	Possible N
Joliet AAP	AMC	Mollusk	Higgins eye pearly mussel	SE	YR	Possible N
Fort Knox	TRADOC	Bird	Hooded merganser	SE	W	Possible R
Fort Campbell	FORSCOM	Bird	Hooded merganser	SE	YR	Possible N
Camp Atterbury	NGB	Mammal	Indiana bat	FE	M	Possible N
Savanna AD	AMC	Mammal	Indiana bat	FE	B, F	Possible N
Fort Gordon	TRADOC	Mammal	Indiana bat	FE	F, M	Possible R
Newport AAP	AMC	Mammal	Indiana bat	FE	M	Possible N
Letterkenny AD	AMC	Mammal	Indiana bat	FE	M	Possible R
Radford AAP	AMC	Mammal	Indiana bat	FE	T	Possible R
Fort Benning	TRADOC	Mammal	Indiana bat	FE	F, M	Possible R

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrance	
Joliet AAP	AMC	Mammal	Indiana bat	FE	B, F	Possible R	
Lexington/Bluegrass	AMC	Mammal	Indiana bat	FE	F, M	Possible N	
Fort Rucker	TRADOC	Mammal	Indiana bat	FE	B, F	Possible N	
Fort Indiantown Gap	FORSCOM	Mammal	Indiana bat	FE	M	Possible R	
Jefferson PG	AMC	Mammal	Indiana bat	FE	F, M	Possible N	
Ravenna AAP	AMC	Mammal	Indiana bat	FE	F	Possible R	
Redstone Arsenal	AMC	Mammal	Indiana bat	FE	F	Possible N	
U.S. Military Academy	USMA	Mammal	Indiana bat	FE	T	Possible N	
Volunteer AAP	AMC	Mammal	Indiana bat	FE	F	Possible R	
Indiana AAP	AMC	Mammal	Indiana bat	FE	F, M	Possible N	
Milan AAP	AMC	Mammal	Indiana bat	FE	F, M	Possible R	
Fort Drum	FORSCOM	Mammal	Indiana bat	FE	F, M	Possible R	
Fort McClellan	TRADOC	Mammal	Indiana bat	FE	B, F, M	Possible R	
Fort Devens	FORSCOM	Mammal	Indiana bat	FE	F, M	Possible R	
Anniston AD	AMC	Mammal	Indiana bat	FE	B, F, M	Possible N	
Fort Campbell	FORSCOM	Mammal	Indiana bat	FE	B, F, M	Likely N	
Seneca AD	AMC	Mammal	Indiana bat	FE	T	Possible R	
Volunteer AAP	AMC	Bird	Interior least tern	FE	T	Possible N	
Indiana AAP	AMC	Bird	Interior least tern	FE	T	Possible N	
Fort Knox	TRADOC	Bird	Interior least tern	FE	T	Possible R	
Milan AAP	AMC	Bird	Interior least tern	FE	T	Possible R	
Fort Campbell	FORSCOM	Bird	Interior least tern	FE	T	Possible R	
U.S. Military Academy	USMA	Bird	Interior least tern	SE	T	Possible R	
Fort Bragg	FORSCOM	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort Gordon	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort Campbell	FORSCOM	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Mississippi AAP	AMC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort Knox	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Camp Blanding	NGB	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Milan AAP	AMC	Bird	Ivory-billed woodpecker	FE	YR	Possible HR	
Fort Jackson	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Sunny Point MT	MTMC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort Stewart	FORSCOM	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort Rucker	TRADOC	Bird	Ivory-billed woodpecker	FE	YR	Extirpated HR	
Fort McClellan	TRADOC	Mollusk	Judge Tait's mussel	FE	YR	Possible NH	
Anniston AD	AMC	Mollusk	Judge Tait's mussel	FE	YR	Possible NH	
Radford AAP	AMC	Fish	Kanawha minnow	C2	YR	Possible N	
Fort McCoy	FORSCOM	Insect	Karner blue butterfly	C2	Current		
Newport AAP	AMC	Insect	Karner blue butterfly	FE	Adjacent	Possible R	
Fort Story	TRADOC	Reptile	Kemp's ridley sea turtle	FE	Adjacent	Possible R	
Fort Stewart	FORSCOM	Reptile	Kemp's ridley sea turtle	FE	Adjacent	Possible R	
Sunny Point MT	MTMC	Reptile	Kemp's ridley sea turtle	FE	ST	Current	
Bager AAP	AMC	Bird	Kentucky warbler	ST	M	Possible R	
Fort McCoy	FORSCOM	Bird	Kentucky warbler	ST	M	Current	
Jefferson PG	AMC	Bird	King rail	SE	B	Possible R	
Camp Atterbury	NGB	Bird	King rail	SE	B	Current	
Ravenna AAP	AMC	Bird	King rail	SE	B	Possible NH	
Fort Knox	TRADOC	Bird	King rail	SE	B	Possible N	
Milan AAP	AMC	Bird	King rail	SE	B	Possible N	
Fort Campbell	FORSCOM	Bird	King rail	SE	YR	Possible R	
Volunteer AAP	AMC	Bird	King rail	SE	YR	Possible R	
Camp Grayling	NGB	Bird	King rail	SE	B	Possible R	
Camp Edwards	NGB	Bird	King rail	SE	B	Possible R	
Camp Atterbury	NGB	Reptile	Kirtland's snake	C2	YR	Possible HR	
Newport AAP	AMC	Reptile	Kirtland's snake	C2	ST	YR	Possible R
Joliet AAP	AMC	Reptile	Kirtland's snake	C2	YR	Possible N	
Indiana AAP	AMC	Reptile	Kirtland's snake	C2	ST	YR	Possible N
Jefferson PG	AMC	Reptile	Kirtland's snake	C2	ST	YR	Possible N
Fort Knox	TRADOC	Reptile	Kirtland's snake	SE	Current		
Fort Bragg	FORSCOM	Bird	Kirtland's warbler	FE	YR	Possible N	
Fort George Meade	FORSCOM	Bird	Kirtland's warbler	FE	M	Possible R	
Sunny Point MT	MTMC	Bird	Kirtland's warbler	FE	M	Possible R	
Camp Grayling	NGB	Bird	Kirtland's warbler	FE	M	Possible N	
Fort Jackson	TRADOC	Bird	Kirtland's warbler	FE	Current		
Aberdeen PG	AMC	Bird	Kirtland's warbler	FE	M	Possible N	
Fort Stewart	FORSCOM	Bird	Kirtland's warbler	FE	M	Possible R	
Savanna AD	AMC	Fish	Lake sturgeon	C2	ST	YR	Possible N
Bager AAP	AMC	Fish	Lake sturgeon	C2	YR	Unlikely N	
Fort Campbell	FORSCOM	Fish	Lake sturgeon	C2	SE	Adjacent	Possible N
Fort Knox	TRADOC	Bird	Lark sparrow	SE	B	Possible R	
Fort Campbell	FORSCOM	Bird	Lark sparrow	SE	B	Possible N	
Lexington/Bluegrass	AMC	Bird	Lark sparrow	SE	B	Possible N	
Fort Campbell	FORSCOM	Bird	Least bittern	SE	B	Possible N	
Joliet AAP	AMC	Bird	Least bittern	SE	T	Possible N	
Savanna AD	AMC	Bird	Least bittern	SE	B	Possible R	
Fort Knox	TRADOC	Bird	Least bittern	SE	B	Possible R	
Fort Devens	FORSCOM	Bird	Least bittern	SE	B	Possible N	
Volunteer AAP	AMC	Bird	Least bittern	ST	B	Possible N	
Milan AAP	AMC	Bird	Least bittern	ST	B	Possible N	
Joliet AAP	AMC	Bird	Least tern	ST	T	Possible R	
Sunny Point MT	MTMC	Reptile	Leatherback turtle	FE	PB	Possible R	
Fort Dix	TRADOC	Insect	Lemmer's pinnion moth	C2	Adjacent	Possible R	
Fort Benning	TRADOC	Mollusk	Lined pocketbook	C2	YR	Possible N	
Fort Campbell	FORSCOM	Bird	Little blue heron	SE	PB, F	Possible N	
Joliet AAP	AMC	Bird	Little blue heron	SE	PB	Possible N	
Savanna AD	AMC	Bird	Little blue heron	SE	M	Possible R	

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrance
Fort Knox	TRADOC	Bird	Little blue heron	SE	T	Possible N
Fort Story	TRADOC	Reptile	Loggerhead sea turtle	FT	SR	Possible N
Sunny Point MT	MTMC	Reptile	Loggerhead sea turtle	FT	Adjacent	Possible N
Fort Stewart	FORSCOM	Reptile	Loggerhead sea turtle	FT	Adjacent	Possible R
Picatinny Arsenal	AMC	Amphibian	Longtail salamander	ST	YR	Possible N
Savanna AD	AMC	Bird	Long-eared owl	SE	M	Possible R
Newport AAP	AMC	Mollusk	Long-solid	SE	YR	Possible HR
Indiana AAP	AMC	Mollusk	Long-solid	SE	YR	Possible R
Fort Knox	TRADOC	Mollusk	Louisville crayfish	C2	SE	Possible R
Mississippi AAP	AMC	Mammal	Louisiana black bear	C1	YR	Possible R
Sunny Point MT	MTMC	Mollusk	Magnificent ramshorn	C2	SE	Current
Fort Devens	FORSCOM	Amphibian	Marbled salamander	ST	YR	Possible R
Camp Edwards	NGB	Amphibian	Marbled salamander	ST	YR	Possible N
Aberdeen PG	AMC	Fish	Maryland darter	FE	YR	Current
Seneca AD	AMC	Reptile	Massasauga	SE	YR	Possible R
Camp Grayling	NGB	Bird	Merlin	ST	T	Possible R
Fort George Meade	FORSCOM	Bird	Migrant loggerhead shrike	C2	SE	Possible R
Aberdeen PG	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible N
Jefferson PG	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible R
Savanna AD	AMC	Bird	Migrant loggerhead shrike	C2	ST	Possible R
Fort Dix	TRADOC	Bird	Migrant loggerhead shrike	C2	SE	Possible N
Fort Knox	TRADOC	Bird	Migrant loggerhead shrike	C2	YR	Possible R
Fort Campbell	FORSCOM	Bird	Migrant loggerhead shrike	C2	YR	Possible R
Fort Pickett	FORSCOM	Bird	Migrant loggerhead shrike	C2	SE	Possible R
Joliet AAP	AMC	Bird	Migrant loggerhead shrike	C2	ST	Current
Fort Belvoir	MDW	Bird	Migrant loggerhead shrike	C2	SE	Possible NH
Lexington/Bluegrass	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible R
Camp Grayling	NGB	Bird	Migrant loggerhead shrike	C2	SE	Unlikely N
Camp Edwards	NGB	Bird	Migrant loggerhead shrike	C2	SE	Possible R
Indiana AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible NH
Camp Atterbury	NGB	Bird	Migrant loggerhead shrike	C2	SE	Possible N
U.S. Military Academy	USMA	Bird	Migrant loggerhead shrike	C2	SE	Possible R
Fort Lee	TRADOC	Bird	Migrant Loggerhead shrike	C2	SE	Possible N
Radford AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible N
Fort McCoy	FORSCOM	Bird	Migrant loggerhead shrike	C2	SE	Possible N
Newport AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible N
Bager AAP	AMC	Bird	Migrant loggerhead shrike	C2	SE	Possible HR
Picatinny Arsenal	AMC	Insect	Mitchell's satyr butterfly	C2		Extirpated NH
Ravenna AAP	AMC	Fish	Mountain brook lamprey	SE	YR	Possible N
Fort Dix	TRADOC	Mammal	Mountain lion	FE	YR	Extirpated HR
U.S. Military Academy	USMA	Mammal	Mountain lion	FE	YR	Extirpated HR
Fort Drum	FORSCOM	Mammal	Mountain lion	FE	YR	Extirpated HR
Picatinny Arsenal	AMC	Mammal	Mountain lion	FE	YR	Extirpated HR
Seneca AD	AMC	Mammal	Mountain lion	FE	YR	Extirpated HR
Fort Dix	TRADOC	Amphibian	Mud salamander	ST	YR	Possible R
Radford AAP	AMC	Amphibian	Mudpuppy	C2	YR	Possible N
Camp Edwards	NGB	Mammal	New England cottontail	C2	YR	Possible N
Fort Devens	FORSCOM	Mammal	New England cottontail	C2	YR	Possible R
Fort Dix	TRADOC	Mammal	New England cottontail	C2	YR	Possible R
Picatinny Arsenal	AMC	Mammal	New England cottontail	C2	YR	Possible R
Fort Knox	TRADOC	Fish	Northern cavefish	C2	YR	Current
U.S. Military Academy	USMA	Amphibian	Northern cricket frog	ST	YR	Possible N
Picatinny Arsenal	AMC	Bird	Northern goshawk	ST	YR	Current
Fort Dix	TRADOC	Bird	Northern goshawk	ST	T	Possible R
Radford AAP	AMC	Bird	Northern harrier	RSE	T	Possible R
Fort Eustis	TRADOC	Bird	Northern harrier	RSE	M	Possible R
Fort Pickett	FORSCOM	Bird	Northern harrier	RSE	M	Possible R
Fort Lee	TRADOC	Bird	Northern harrier	RSE	T	Possible R
Fort Story	TRADOC	Bird	Northern harrier	RSE	M	Possible HR
Fort Belvoir	MDW	Bird	Northern harrier	RSE	M	Possible R
Indiana AAP	AMC	Bird	Northern harrier	SE	YR	Possible R
Picatinny Arsenal	AMC	Bird	Northern harrier	SE	M	Current
Savanna AD	AMC	Bird	Northern harrier	SE	YR	Possible R
Newport AAP	AMC	Bird	Northern harrier	SE	YR	Possible R
Ravenna AAP	AMC	Bird	Northern harrier	SE	B	Possible N
Joliet AAP	AMC	Bird	Northern harrier	SE	B	Current
Jefferson PG	AMC	Bird	Northern harrier	SE	YR	Possible R
Fort Dix	TRADOC	Bird	Northern harrier	SE	YR	Possible N
Camp Edwards	NGB	Bird	Northern harrier	ST	YR	Likely
Fort Devens	FORSCOM	Bird	Northern harrier	ST	T	Possible R
Volunteer AAP	AMC	Bird	Northern harrier	ST	T	Possible N
Fort Drum	FORSCOM	Bird	Northern harrier	ST	B	Possible R
Milan AAP	AMC	Bird	Northern harrier	ST	T	Possible N
Camp Atterbury	NGB	Bird	Northern harrier	ST	YR	Current
Fort Campbell	FORSCOM	Bird	Northern harrier	ST	W	Possible N
Seneca AD	AMC	Bird	Northern harrier	ST	M	Possible R
U.S. Military Academy	USMA	Bird	Northern harrier	ST	M	Current
Camp Edwards	NGB	Bird	Northern parula	ST	B	Possible R
Fort Campbell	FORSCOM	Reptile	Northern pine snake	C2	ST	Possible R
Fort Dix	TRADOC	Reptile	Northern pine snake	C2	ST	Possible N
Bager AAP	AMC	Reptile	Northern ribbon snake	SE	YR	Possible N
Newport AAP	AMC	Mollusk	Northern riffleshell	C2	SE	Possible N
Ravenna AAP	AMC	Bird	Northern waterthrush	SE	B	Possible N
Fort Knox	TRADOC	Mollusk	Onyx rocksail	C2	YR	Possible NH
Volunteer AAP	AMC	Mollusk	Onyx rocksail	C2	SE	Unlikely NH
Indiana AAP	AMC	Mollusk	Orange-footed pearly mussel	FE	YR	Extirpated HR

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Volunteer AAP	AMC	Mollusk	Orange-footed pearly mussel	FE	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Orange-footed pearly mussel	FE	YR	Possible N
Fort Knox	TRADOC	Mollusk	Orange-footed pearly mussel	FE	YR	Extirpated HR
Fort Campbell	FORSCOM	Mollusk	Orange-footed pearly mussel	FE	YR	Possible NH
Fort Knox	TRADOC	Mollusk	Ortmann's pearly mussel	C2	SE	YR Possible R
Lexington/Bluegrass	AMC	Bird	Osprey	SE	M	Possible R
Savanna AD	AMC	Bird	Osprey	SE	M	Possible N
Newport AAP	AMC	Bird	Osprey	SE	M	Possible R
Fort Campbell	FORSCOM	Bird	Osprey	SE	M	Possible N
Joliet AAP	AMC	Bird	Osprey	SE	M	Possible N
Bager AAP	AMC	Bird	Osprey	SE	M	Possible R
Camp Atterbury	NGB	Bird	Osprey	SE	M	Possible R
Fort Knox	TRADOC	Bird	Osprey	SE	M	Possible R
Volunteer AAP	AMC	Bird	Osprey	SE	B	Possible N
Indiana AAP	AMC	Bird	Osprey	SE	M	Possible R
Fort McCoy	FORSCOM	Bird	Osprey	SE	SR	Current
Camp Grayling	NGB	Bird	Osprey	ST	B	Possible N
Fort Dix	TRADOC	Bird	Osprey	ST	M	Possible R
Seneca AD	AMC	Bird	Osprey	ST	M	Possible N
Picatinny Arsenal	AMC	Bird	Osprey	ST	M	Possible R
Fort Drum	FORSCOM	Bird	Osprey	ST	M	Possible R
U.S. Military Academy	USMA	Bird	Osprey	ST	M	Current
Fort Benning	TRADOC	Mollusk	Oval pigtoe	C2	YR	Possible N
Redstone Arsenal	AMC	Mollusk	Oyster mussel	C2	YR	Unlikely NH
Bager AAP	AMC	Fish	Paddlefish	3C	ST	YR Unlikely
Redstone Arsenal	AMC	Mollusk	Pale lilliput pearly mussel	FE	YR	Possible N
Volunteer AAP	AMC	Mollusk	Pale lilliput pearly mussel	FE	YR	Possible R
Savanna AD	AMC	Fish	Pallid shiner	SE	YR	Possible N
Camp Santiago	NGB	Bird	Peurto Rican plain pigeon	FE	YR	Possible N
Picatinny Arsenal	AMC	Bird	Pied-billed grebe	SE	M	Current
Lexington/Bluegrass	AMC	Bird	Pied-billed grebe	SE	YR	Possible R
Fort Dix	TRADOC	Bird	Pied-billed grebe	SE	YR	Possible N
Joliet AAP	AMC	Bird	Pied-billed grebe	SE	M	Possible N
Fort Knox	TRADOC	Bird	Pied-billed grebe	SE	W	Possible R
Fort Campbell	FORSCOM	Bird	Pied-billed grebe	SE	YR	Possible R
Fort Devens	FORSCOM	Bird	Pied-billed grebe	ST	B	Possible N
Camp Edwards	NGB	Bird	Pied-billed grebe	ST	B	Possible R
Fort Dix	TRADOC	Amphibian	Pine barrens tree frog	3C	SE	YR Possible N
Fort Campbell	FORSCOM	Mollusk	Pink mucket pearly mussel	FE	YR	Possible NH
Fort Knox	TRADOC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible NH
Volunteer AAP	AMC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible R
Indiana AAP	AMC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible HR
Redstone Arsenal	AMC	Mollusk	Pink mucket pearly mussel	FE	YR	Possible N
Camp Atterbury	NGB	Mollusk	Pink papershell mussel	SE	YR	Possible N
Fort McCoy	FORSCOM	Bird	Piping plover	FE	M	Possible N
Bager AAP	AMC	Bird	Piping plover	FE	M	Possible N
Redstone Arsenal	AMC	Bird	Piping plover	FT	M	Possible R
Fort Campbell	FORSCOM	Bird	Piping plover	FT	T	Possible R
Fort Knox	TRADOC	Bird	Piping plover	FT	B	Possible N
Fort Dix	TRADOC	Bird	Piping plover	FT	T	Possible N
Camp Edwards	NGB	Bird	Piping plover	FT	B	Possible N
Camp Santiago	NGB	Bird	Piping plover	FT	T	Current
Fort Eustis	TRADOC	Bird	Piping plover	FT	T	Possible N
Fort Stewart	FORSCOM	Bird	Piping plover	FT	W	Possible N
Fort Story	TRADOC	Bird	Piping plover	FT	T	Possible R
Sunny Point MT	MTMC	Bird	Piping plover	FT	W	Possible N
Camp Santiago	NGB	Reptile	Puerto Rican boa	FE	YR	Current
Camp Santiago	NGB	Reptile	Puerto Rican crested toad	FT	YR	Possible NH
Fort Story	TRADOC	Mammal	Pungo mouse	C2	YR	Possible N
Fort Campbell	FORSCOM	Mollusk	Purple cat's paw pearly mussel	PE	YR	Possible NH
Fort Knox	TRADOC	Mollusk	Purple lilliput	C2	SE	YR Possible NH
Fort McClellan	TRADOC	Mollusk	Purple lilliput	C2	YR	Possible NH
Fort McClellan	TRADOC	Fish	Pygmy sculpin	FT	YR	Possible N
Anniston AD	AMC	Fish	Pygmy sculpin	FT	YR	Possible N
Milan AAP	AMC	Mammal	Rafinesque's big-eared bat	C2	YR	Possible N
Fort Campbell	FORSCOM	Mammal	Rafinesque's big-eared bat	C2	ST	YR Possible R
Fort Jackson	TRADOC	Mammal	Rafinesque's big-eared bat	C2	YR	Possible R
Fort Knox	TRADOC	Mammal	Rafinesque's big-eared bat	C2	ST	YR Possible R
Sunny Point MT	MTMC	Mammal	Rafinesque's big-eared bat	C2	YR	Possible R
Lexington/Bluegrass	AMC	Mammal	Rafinesque's big-eared bat	C2	ST	F, M Possible N
Savanna AD	AMC	Mollusk	Rainbow	SE	YR	Possible N
Joliet AAP	AMC	Mollusk	Rainbow	SE	YR	Possible N
Mississippi AAP	AMC	Reptile	Rainbow snake	SE	YR	Possible N
Sunny Point MT	MTMC	Mollusk	Rare skipper	C2	YR	Possible R
Anniston AD	AMC	Mammal	Red wolf	FE	YR	Current
Sunny Point MT	MTMC	Mammal	Red wolf	FE	YR	Extirpated HR
Volunteer AAP	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort McClellan	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Stewart	FORSCOM	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Bragg	FORSCOM	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Gordon	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Mississippi AAP	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Rucker	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Camp Shelby	NGB	Mammal	Red wolf	FE	YR	Extirpated HR
Milan AAP	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Campbell	FORSCOM	Mammal	Red wolf	FE	YR	Extirpated HR

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Camp Blanding	NGB	Mammal	Red wolf	FE	YR	Extirpated HR
Lexington/Bluegrass	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Jackson	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Knox	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Fort Benning	TRADOC	Mammal	Red wolf	FE	YR	Extirpated HR
Redstone Arsenal	AMC	Mammal	Red wolf	FE	YR	Extirpated HR
Bager AAP	AMC	Fish	Redfin shiner	ST	YR	Unlikely N
Fort McCoy	FORSCOM	Fish	Redfin shiner	ST	YR	Possible N
Letterkenny AD	AMC	Reptile	Red-bellied turtle	SE	YR	Possible N
Fort Bragg	FORSCOM	Bird	Red-cockaded woodpecker	FE	YR	Current
Milan AAP	AMC	Bird	Red-cockaded woodpecker	FE	YR	Extirpated HR
Fort Stewart	FORSCOM	Bird	Red-cockaded woodpecker	FE	YR	Current
Sunny Point MT	MTMC	Bird	Red-cockaded woodpecker	FE	YR	Current
Fort McClellan	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Possible N
Fort Benning	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Current
Fort Gordon	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Current
Fort Jackson	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Current
Mississippi AAP	AMC	Bird	Red-cockaded woodpecker	FE	YR	Possible R
Camp Shelby	NGB	Bird	Red-cockaded woodpecker	FE	YR	Current
Volunteer AAP	AMC	Bird	Red-cockaded woodpecker	FE	YR	Possible NH
Camp Blanding	NGB	Bird	Red-cockaded woodpecker	FE	YR	Possible N
Anniston AD	AMC	Bird	Red-cockaded woodpecker	FE	YR	Unlikely R
Fort Rucker	TRADOC	Bird	Red-cockaded woodpecker	FE	YR	Possible R
Picatinny Arsenal	AMC	Bird	Red-headed woodpecker	ST	YR	Possible R
Fort Dix	TRADOC	Bird	Red-headed woodpecker	ST	YR	Possible N
Fort McCoy	FORSCOM	Bird	Red-necked grebe	SE	M	Possible R
Joliet AAP	AMC	Bird	Red-shouldered hawk	SE	B	Possible R
Savanna AD	AMC	Bird	Red-shouldered hawk	SE	B	Current
Camp Grayling	NGB	Bird	Red-shouldered hawk	ST	B	Possible N
Seneca AD	AMC	Bird	Red-shouldered hawk	ST	M	Possible R
Fort Dix	TRADOC	Bird	Red-shouldered hawk	ST	W	Possible N
Bager AAP	AMC	Bird	Red-shouldered hawk	ST	B	Possible N
Fort McCoy	FORSCOM	Bird	Red-shouldered hawk	ST	B	Possible N
Picatinny Arsenal	AMC	Bird	Red-shouldered hawk	ST	T	Current
Fort Drum	FORSCOM	Bird	Red-shouldered hawk	ST	B	Possible R
U.S. Military Academy	USMA	Bird	Red-shouldered hawk	ST	B	Possible N
Fort Knox	TRADOC	Mollusk	Ring pink	FE	YR	Possible NH
Redstone Arsenal	AMC	Mollusk	Ring pink	PE	YR	Possible R
Mississippi AAP	AMC	Reptile	Ringed sawback turtle	FT	YR	Possible R
Milan AAP	AMC	Mammal	River otter	ST	YR	Unlikely N
Fort Campbell	FORSCOM	Mammal	River otter	ST	YR	Possible R
Savanna AD	AMC	Mammal	River otter	ST	YR	Current
Joliet AAP	AMC	Mammal	River otter	ST	YR	Possible R
Fort McCoy	FORSCOM	Fish	River redhorse	ST	YR	Possible N
Joliet AAP	AMC	Fish	River redhorse	ST	YR	Possible N
Bager AAP	AMC	Mollusk	Rock pocketbook	ST	YR	Possible N
Sunny Point MT	MTMC	Bird	Roseate tern	FE	M	Possible R
Camp Edwards	NGB	Bird	Roseate tern	FE	F, M	Possible R
Camp Santiago	NGB	Bird	Roseate tern	FT	B	Possible N
Volunteer AAP	AMC	Mollusk	Rough pigtoe	FE	YR	Unlikely NH
Fort Knox	TRADOC	Mollusk	Rough pigtoe	FE	YR	Extirpated HR
Indiana AAP	AMC	Mollusk	Rough pigtoe	FE	YR	Extirpated HR
Fort Campbell	FORSCOM	Mollusk	Rough pigtoe	FE	YR	Possible NH
Redstone Arsenal	AMC	Mollusk	Rough pigtoe	FE	YR	Possible N
Newport AAP	AMC	Mollusk	Rough pigtoe	FE	YR	Possible NH
Indiana AAP	AMC	Mollusk	Rough rabbit's foot	C2	SE	Extirpated HR
Fort Knox	TRADOC	Mollusk	Rough rabbit's foot	C2	SE	Possible NH
Fort Campbell	FORSCOM	Mollusk	Rugged river snail	C2	SE	Possible NH
Bager AAP	AMC	Mollusk	Salamander mussel	C2	ST	Possible N
Fort Knox	TRADOC	Mollusk	Salamander mussel	C2	ST	Possible N
Joliet AAP	AMC	Mollusk	Salamander mussel	C2	YR	Possible N
Joliet AAP	AMC	Bird	Sandhill crane	SE	M	Possible N
Volunteer AAP	AMC	Bird	Sandhill crane	ST	T	Possible N
Fort Bragg	FORSCOM	Fish	Sandhills chub	C2	YR	Possible N
Picatinny Arsenal	AMC	Bird	Savannah sparrow	ST	M	Current
Fort Dix	TRADOC	Bird	Savannah sparrow	ST	YR	Possible N
Savanna AD	AMC	Mollusk	Scallopshell	C2	YR	Possible NH
Fort McClellan	TRADOC	Mollusk	Sculpin snail	C2	YR	Possible N
Anniston AD	AMC	Mollusk	Sculpin snail	C2	YR	Possible N
Fort Story	TRADOC	Bird	Sedge wren	RSE	W	Possible R
Fort Eustis	TRADOC	Bird	Sedge wren	RSE	W	Possible R
Fort Dix	TRADOC	Bird	Sedge wren	SE	B	Possible R
Picatinny Arsenal	AMC	Bird	Sedge wren	SE	B	Possible N
Camp Atterbury	NGB	Bird	Sedge wren	ST	B	Possible R
Newport AAP	AMC	Bird	Sedge wren	ST	B	Possible R
Fort Campbell	FORSCOM	Bird	Sharp-shinned hawk	SE	YR	Possible N
Savanna AD	AMC	Bird	Sharp-shinned hawk	SE	YR	Possible N
Joliet AAP	AMC	Bird	Sharp-shinned hawk	SE	YR	Possible R
Volunteer AAP	AMC	Bird	Sharp-shinned hawk	ST	YR	Possible N
Milan AAP	AMC	Bird	Sharp-shinned hawk	ST	YR	Possible N
Newport AAP	AMC	Mollusk	Sheepnose	SE	YR	Possible N
Joliet AAP	AMC	Mollusk	Sheepnose	ST	YR	Possible N
Savanna AD	AMC	Mollusk	Sheepnose	ST	YR	Possible NH
Camp Blanding	NGB	Mammal	Sherman's fox squirrel	C2	YR	Current
Fort Stewart	FORSCOM	Mammal	Sherman's pocket gopher	3A	SE	Possible HR
Redstone Arsenal	AMC	Mollusk	Shiny pigtoe	FE	YR	Possible N

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Fort Benning	TRADOC	Mollusk	Shiny-rayed pocketbook	C2	YR	Possible N
U.S. Military Academy	USMA	Fish	Shortnose sturgeon	FB	Adjacent	Possible R
Fort Stewart	FORSCOM	Fish	Shortnose sturgeon	FE	YR	Possible N
Camp Edwards	NGB	Fish	Shortnose sturgeon	FE	Adjacent	Possible R
Fort Story	TRADOC	Fish	Shortnose sturgeon	FE	YR	Possible R
Sunny Point MT	MTMC	Fish	Shortnose sturgeon	FE	YR	Possible N
Aberdeen PG	AMC	Fish	Shortnose sturgeon	FE	YR	Possible R
Camp Edwards	NGB	Bird	Short-eared owl	SE	B	Possible N
Camp Grayling	NGB	Bird	Short-eared owl	SE	B	Possible R
Savanna AD	AMC	Bird	Short-eared owl	SE	YR	Possible N
Joliet AAP	AMC	Bird	Short-eared owl	SE	YR	Possible N
Picatinny Arsenal	AMC	Bird	Short-eared owl	SE	W	Possible R
Fort Dix	TRADOC	Bird	Short-eared owl	SE	YR	Possible R
Bager AAP	AMC	Insect	Silphium borer moth	SE		Possible N
Redstone Arsenal	AMC	Mollusk	Slabside pearly mussel	C2	YR	Possible N
Redstone Arsenal	AMC	Fish	Slackwater darter	FE	YR	Possible N
Fort Campbell	FORSCOM	Fish	Slender madtom	SE	YR	Possible N
Joliet AAP	AMC	Mollusk	Slippershell mussel	SE	YR	Possible N
Fort Campbell	FORSCOM	Fish	Smallscale darter	SE	YR	Possible N
Volunteer AAP	AMC	Fish	Snail darter	FT	YR	Possible N
Joliet AAP	AMC	Bird	Snowy egret	SE	PB	Possible N
Joliet AAP	AMC	Mollusk	Snuff box	SE	YR	Possible N
Newport AAP	AMC	Mollusk	Snuff box	SE	YR	Possible N
Savanna AD	AMC	Mollusk	Snuff box	SE	YR	Possible N
Camp Blanding	NGB	Bird	Southeastern American kestrel	C2	ST	YR Current
Fort Campbell	FORSCOM	Mammal	Southeastern bat	C2	F	Possible R
Fort Knox	TRADOC	Mammal	Southeastern bat	C2	SE	F Possible
Fort Rucker	TRADOC	Mollusk	Southern kidneyshell	C2	YR	Possible HR
Fort Belvoir	MDW	Mammal	Southern pygmy shrew	C2	YR	Possible HR
Lexington/Bluegrass	AMC	Mammal	Southern pygmy shrew	C2	YR	Possible N
Fort George Meade	FORSCOM	Mammal	Southern pygmy shrew	C2	YR	Possible R
Fort Campbell	FORSCOM	Mammal	Southern pygmy shrew	C2	YR	Possible R
Fort Knox	TRADOC	Mammal	Southern pygmy shrew	C2	YR	Possible N
Fort Rucker	TRADOC	Mollusk	Southern sandshell	C2	YR	Possible HR
Bager AAP	AMC	Fish	Speckled chub	ST	YR	Possible N
Joliet AAP	AMC	Mollusk	Spectaclecase	C2	SE	YR Possible
Savanna AD	AMC	Mollusk	Spectaclecase	C2	SE	YR Possible NH
Volunteer AAP	AMC	Mollusk	Spiny river snail	C1	SE	YR Unlikely NH
Fort Knox	TRADOC	Bird	Spotted Sandpiper	SE	B	Possible R
Fort Campbell	FORSCOM	Bird	Spotted sandpiper	SE	YR	Possible N
Joliet AAP	AMC	Reptile	Spotted turtle	SE	YR	Possible N
Fort Indiantown Gap	FORSCOM	Insect	Sugar maple longhorn beetle	C2	ST	Possible N
Joliet AAP	AMC	Bird	Swainson's hawk	3C	SE	M Possible R
Savanna AD	AMC	Bird	Swainson's hawk	3C	SE	M Possible R
Redstone Arsenal	AMC	Mollusk	Tan riffleshell	FE	YR	Possible NH
Fort Campbell	FORSCOM	Mollusk	Tan riffleshell	FE	YR	Unlikely NH
Fort Indiantown Gap	FORSCOM	Insect	Tawny crescent	C2	ST	Possible N
Volunteer AAP	AMC	Amphibian	Tennessee cave salamander	C2	ST	YR Possible N
Redstone Arsenal	AMC	Mollusk	Tennessee clubshell	C2	YR	Unlikely NH
Fort McClellan	TRADOC	Mollusk	Tennessee heelsplitter	C2	YR	Possible NH
Picatinny Arsenal	AMC	Reptile	Timber rattlesnake	SE	YR Current	
Fort Dix	TRADOC	Reptile	Timber rattlesnake	SE	YR	Possible N
U.S. Military Academy	USMA	Reptile	Timber rattlesnake	ST	YR Current	
Seneca AD	AMC	Reptile	Timber rattlesnake	ST	YR Possible R	
Picatinny Arsenal	AMC	Amphibian	Trembley's salamander	SE	YR Possible N	
Indiana AAP	AMC	Mollusk	Tubercled-blossom pearly mussel	FE	YR Extirpated HR	
Volunteer AAP	AMC	Mollusk	Tubercled-blossom pearly mussel	FE	YR Extirpated	
Redstone Arsenal	AMC	Fish	Tuscombia darter	C2	YR Possible N	
Fort McClellan	TRADOC	Mollusk	Upland combshell	C2	YR Possible NH	
Anniston AD	AMC	Mollusk	Upland combshell	C2	YR Possible NH	
Fort Devens	FORSCOM	Bird	Upland sandpiper	SE	B Current	
Fort Knox	TRADOC	Bird	Upland sandpiper	SE	M Possible R	
Picatinny Arsenal	AMC	Bird	Upland sandpiper	SE	B Current	
Fort Campbell	FORSCOM	Bird	Upland sandpiper	SE	T Possible R	
Camp Edwards	NGB	Bird	Upland sandpiper	SE	B Current	
Camp Atterbury	NGB	Bird	Upland sandpiper	SE	B Possible R	
Lexington/Bluegrass	AMC	Bird	Upland sandpiper	SE	M Possible R	
Joliet AAP	AMC	Bird	Upland sandpiper	SE	B Current	
Fort Dix	TRADOC	Bird	Upland sandpiper	SE	B Possible N	
Savanna AD	AMC	Bird	Upland sandpiper	SE	B Current	
Fort Indiantown Gap	FORSCOM	Bird	Upland sandpiper	ST	B Possible N	
Letterkenny AD	AMC	Bird	Upland sandpiper	ST	B Possible N	
Savanna AD	AMC	Bird	Veery	ST	M Possible R	
Joliet AAP	AMC	Bird	Veery	ST	B Likely N	
Volunteer AAP	AMC	Mollusk	Verrucose file snail	C2	SE	YR Possible N
Fort Dix	TRADOC	Bird	Vesper sparrow	SE	YR Possible N	
Picatinny Arsenal	AMC	Bird	Vesper sparrow	SE	M Current	
Radford AAP	AMC	Mollusk	Virginia fringed mountain snail	FE	YR Possible N	
Lexington/Bluegrass	AMC	Mammal	Virginia big-eared bat	FE	F, M Possible N	
Volunteer AAP	AMC	Bird	Virginia rail	SE	YR Possible R	
Milan AAP	AMC	Bird	Virginia rail	SE	T Possible N	
Fort Campbell	FORSCOM	Bird	Virginia rail	SE	M Possible R	
Fort Stewart	FORSCOM	Mammal	West Indian manatee	FE	Adjacent Possible	
Sunny Point MT	MTMC	Mammal	West Indian manatee	FE	Adjacent Possible	
Bager AAP	AMC	Reptile	Western box turtle	SE	YR Possible N	
Fort Campbell	FORSCOM	Reptile	Western pygmy rattlesnake	ST	YR Possible R	

Appendix B (continued)

Installation	MACOM	Taxon	Species	Status	Residency	Occurrence
Bager AAP	AMC	Reptile	Western ribbon snake	SE	YR	Possible R
Fort McCoy	FORSCOM	Reptile	Western slender glass lizard	SE	YR	Current
Bager AAP	AMC	Reptile	Western slender glass lizard	SE	YR	Possible N
Newport AAP	AMC	Mollusk	White catspaw	PE	YR	Possible N
Newport AAP	AMC	Mollusk	White wartyback	FE	YR	Possible N
Savanna AD	AMC	Mammal	White-tailed jackrabbit	SE	YR	Current
Fort Story	TRADOC	Bird	Wilson's plover	SE	T	Possible N
Fort Eustis	TRADOC	Bird	Wilson's plover	SE	T	Possible N
Bager AAP	AMC	Mollusk	Winged mapleleaf	3C	SE	YR Possible N
Fort Stewart	FORSCOM	Bird	Wood stork	FE	PB	Possible N
Camp Blanding	NGB	Bird	Wood stork	FE	YR	Possible N
Fort Rucker	TRADOC	Bird	Wood stork	FE	PB	Possible N
Sunny Point MT	MTMC	Bird	Wood stork	FE	PB	Possible R
Redstone Arsenal	AMC	Bird	Wood stork	FE	M	Possible N
Fort Gordon	TRADOC	Bird	Wood stork	FE	PB	Possible N
Fort Jackson	TRADOC	Bird	Wood stork	FE	YR	Possible R
Fort Benning	TRADOC	Bird	Wood stork	FE	PB	Possible R
Fort Belvoir	MDW	Reptile	Wood turtle	RSE	YR	Current
Picatinny Arsenal	AMC	Reptile	Wood turtle	ST	YR	Current
Bager AAP	AMC	Reptile	Wood turtle	ST	YR	Possible N
Fort Dix	TRADOC	Reptile	Wood turtle	ST	YR	Possible N
Fort McCoy	FORSCOM	Reptile	Wood turtle	ST	YR	Current
Bager AAP	AMC	Bird	Worm-eating warbler	SE	B	Possible R
Volunteer AAP	AMC	Fish	Yellowfin madtom	FT	YR	Extirpated HR
Fort Campbell	FORSCOM	Mollusk	Yellow-blossom pearly mussel	FE	YR	Possible NH
Fort Story	TRADOC	Bird	Yellow-crowned night heron	RSE	YR	Possible R
Radford AAP	AMC	Bird	Yellow-crowned night heron	RSE	B	Possible NH
Fort Belvoir	MDW	Bird	Yellow-crowned night heron	RSE	B	Possible R
Fort Eustis	TRADOC	Bird	Yellow-crowned night heron	RSE	B	Possible R
Fort Lee	TRADOC	Bird	Yellow-crowned night heron	RSE	B	Possible R
Jefferson PG	AMC	Bird	Yellow-crowned night heron	SE	B	Possible R
Camp Atterbury	NGB	Bird	Yellow-crowned night heron	SE	B	Possible N
Newport AAP	AMC	Bird	Yellow-crowned night heron	SE	B	Possible N
Indiana AAP	AMC	Bird	Yellow-crowned night heron	SE	B	Possible R
Lexington/Bluegrass	AMC	Bird	Yellow-crowned night heron	ST	B	Possible R
Fort Campbell	FORSCOM	Bird	Yellow-crowned night heron	ST	PB, F	Possible N
Volunteer AAP	AMC	Bird	Yellow-crowned night heron	ST	B	Possible NH
Milan AAP	AMC	Bird	Yellow-crowned night heron	ST	B	Possible N
Picatinny Arsenal	AMC	Bird	Yellow-crowned night heron	ST	B	Possible N
Fort Dix	TRADOC	Bird	Yellow-crowned night heron	ST	B	Possible N
Fort Knox	TRADOC	Bird	Yellow-crowned night heron	ST	B	Possible N
Savanna AD	AMC	Bird	Yellow-headed blackbird	SE	B	Possible N
Joliet AAP	AMC	Bird	Yellow-headed blackbird	SE	B	Possible N
Camp Santiago	NGB	Bird	Yellow-shouldered blackbird	FE	YR	Possible N
Fort McCoy	FORSCOM	Bird	Yellow-throated warbler	SE	M	Possible
Bager AAP	AMC	Bird	Yellow-throated warbler	SE	M	Possible N
Fort Indiantown Gap	FORSCOM	Insect	(Classified)			Current

Status

3A ; 3C ; C1 - Category 1; C2 - Category 2; FE - Federally endangered FT - Federally threatened; FTSA - FT due to similarity of appearance; PE - Proposed endangered; SE - State endangered; ST - State threatened.

Residency

Adjacent - adjacent areas (may be affected); B - Breeding season; F - Foraging; M - Migration; PB - Post breeding; T - Transient; W - Winter season; YR - Year round.

Occurrence

Current - Known to occur on the installation presently or within very recent past; Extirpated - Species presently extirpated in the region but otherwise might have occurred; Likely - Likely to occur; Possible - May occur; Unlikely - Possible but unlikely to occur.

HR- Historic range; species historic range includes the installation; N - Nearby; species known to occur in the vicinity or within surrounding counties; NH - Nearby, Historic; historically known to occur as above; R - Range; species current range includes the installation.

APPENDIX C: A STANDARD STATUS REPORT FORMAT FOR THREATENED AND ENDANGERED ANIMAL SPECIES ON ARMY LANDS

INTRODUCTION

The Endangered Species Act requires federal agencies to carry out programs for the conservation of listed species and to ensure that actions authorized, funded, or carried out by such agencies do not jeopardize the continued existence of listed species. Compliance with the Act and Army policy described in Army Regulation (AR) 420-74, requires availability of current and updatable information on the distribution and status of threatened and endangered species on Army lands.

A standardized status report format for threatened and endangered plant species has been proposed and is recommended for use by the U.S. Fish and Wildlife Service. Recently, this format was used to report on the status of *Haplopappus fremontii* subsp. *monocephalus*, a Category 2 candidate species, on the U.S. Army Pinon Canyon Maneuver Site, Colorado. As shown on the following pages, the format is also adaptable to wildlife.

The advantage to the use of this format is that the report is very detailed with respect to taxonomy, reproduction biology, ecology, and the distribution of historical and present populations. Such information can be used to evaluate the potential impacts on individual species of both military and nonmilitary uses of Army lands, and to help identify information gaps and data needs. It also allows Army natural resource managers the opportunity to recommend status changes and management alternatives applicable to their installations. Eventual Army-wide compilation of status reports for all listed species occurring on Army lands will provide a mechanism for keeping both major command and Department of the Army natural resource management planners and policymakers well informed about the distribution and status of threatened and endangered species on Army lands.

**STATUS REPORT ON POPULATIONS OF THE BLACK-CAPPED VIREO ON U.S.
ARMY LANDS**

Taxon name: *Vireo atricapillus* Woodhouse

Common Name: Black-capped Vireo

Family: Vireonidae

States/Nations where taxon occurs: Texas and Oklahoma, USA; Mexico

Current federal status: Endangered

Author of report: David J. Tazik

Original date of report: May 1991

Date of most recent revision: none

Individual to whom further information and comments should be sent: David J. Tazik, U.S. Army
Construction Engineering Research Laboratory P.O. Box 9005, Champaign, IL 61826-9005

STATUS REPORT ON POPULATIONS OF THE BLACK-CAPPED VIREO ON U.S. ARMY LANDS

I. SPECIES INFORMATION

1. Classification and nomenclature

A. Species

1. Scientific Name

a. Binomial--*Vireo atricapillus* Woodhouse

b. Full bibliographic citation--Woodhouse, Samuel W. 1852. Descriptions of new species of the genus *Vireo*, Vieill., and *Zonotrichia*, Swains. Proceedings of the Academy of Natural Sciences of Philadelphia 6:60.

c. Type specimen(s)--San Pedro River, 10 miles from source=Devil's River, near Sonora, Sutton County, Texas (Dcignan 1961). Collected 26 May 1851 by S.W. Woodhouse. Deposited in Museum of Natural History, Division of Birds (USNM), number 15040.

2. Pertinent synonym--*Vireo atricapilla* Woodhouse

3. Common names--Black-capped Vireo

4. Taxon codes--VIAT (USACERL); American Ornithologist's Union (AOU) No. 630.

5. Size of genus--25 species for North America (American Ornithologist's Union 1983).

B. Family classification

1. Family name--Vireonidae

2. Subfamily--Vireoninae

3. Pertinent family synonym--None

4. Common name for family--Vireo Family

C. Major animal group--Aves; passerine; songbird.

D. History of knowledge of taxon--(Marshal *et al.* 1985). The name of the Black-capped Vireo has remained unchanged since the original description by Woodhouse. However, the area of the type locality has changed and is now unsuitable. Bunker (1910) studied nesting, stomach contents, and plumages of a dense population in Blaine County, Oklahoma. He discovered the sexual dimorphism in color, unique in the vireo family. At that time, the U.S. breeding range included Kansas, Oklahoma, and Texas. The species disappeared from Kansas after 1953 (Tordoff 1956). Gruber (1957, 1961) studied in detail the distribution, ecology, and population biology of the species in Oklahoma and Texas. J.A. Grzybowski presently is studying population and nesting ecology in parts of Oklahoma and Texas.

E. Comments on current alternative taxonomic treatments-- (Marshal *et al.* 1985). There is a close similarity between *V. atricapillus* and its Mexican neighbor to the south, *V. nelsoni*, the Dwarf Vireo. Common traits of brick red iris, blackish tertials, and secondary wing coverts of adults, pure white eggs, and exceptionally complex musical song distinguish these two species from other members of the genus. *V. nelsoni* is similar in appearance to the female *V. atricapillus*, except that the former is darker, has a more olive green cap and duller body, and more cream-colored, less bright wing bars. Although each occupy similar habitat, they have not been seen together. *V. nelsoni* is known to occur from Jalisco and Guanajuato to Oaxaca. Presently, there is no evidence to justify a merger of these two taxa.

2. Present legal or other formal status

A. International

- 1. Present designation or proposed protection or regulation--None.**
- 2. Other current formal status recommendations--None.**
- 3. Review of past status--Not applicable.**

B. National

1. United States

- a. Present designation or proposed legal protection or regulation--USDI:** Listed as endangered effective 5 November 1987 (52 FR 37420- 37423 [6 October 1987]).
- b. Other current formal status recommendations--None.**
- c. Review of past status--USDI:** Designated a Category 2 candidate for listing in 1982 (47 FR 58454 [30 December 1982]); and as Category 1 in 1985 (50 FR 37958 [18 September 1985]).

C. State or equivalent

1. Kansas

- a. Present designated or proposed legal protection or regulation--Department of Wildlife and Parks:** None.
- b. Other current formal status recommendations--Unknown.**
- c. Review of past status--May have been listed previously; unknown at this time.**

2. Oklahoma

- a. Present designated or proposed legal protection or regulation--Oklahoma Department of Wildlife Conservation:** Endangered.
- b. Other current formal status recommendations--Unknown.**
- c. Review of past status--Added to state list during 1987.**

3. Texas

- a. Present designated or proposed legal protection or regulation--Texas Parks and Wildlife: Endangered.**
- b. Other current formal status recommendations--Texas Organization for Endangered Species: Endangered.**
- c. Review of past status--Listed by state of Texas as threatened on 1 March 1987.**

3. Description

A. General nontechnical description--A small greenish song bird approximately 11 cm long. Olive above, white below, and with yellowish flanks and wingbars. Males glossy black head contrasts with white spectacle. Females have dark gray head. Immature birds browner above, buffy below.

B. Technical description

1. Plumage and morphology--(Marshall *et al.* 1985). Adult male olive green on upper surface, white beneath with flanks faintly yellowish green. Crown and upper half of head is black, sharply demarcated. Black extends farther posteriorly on the crown and nape on males more than 1 year old than it does on first year males. The large, angular, white patch along the side of the head includes the lores and an interrupted eye-ring. It is broader than similar markings on the Solitary (*V. solitarius*) and Gray (*V. vicinior*) Vireos. This white area is entirely surrounded by black. The white patches from the two sides converge becoming pointed anteriorly above the bill where they are separated by a speck of black. Black also encroaches across the super ciliary to the middle of the upper eyelid. Iris brownish red; bill black; feet plumbus. Wing and tail feathers dark olive, becoming blackish on the tertials and secondary coverts; all conspicuously rimmed with cream or lemon yellow. Rims broaden terminally on the coverts as conspicuous wing bars. The adult female is similarly colored except that the crown is slate gray, and the under parts are washed with greenish yellow. Immature specimens in fall plumage differ from adults by greener general coloration, a peculiar burnt umber wash along the flanks, and no head pattern, although the olive cap is grayer than the back. A mid-winter molt blackens the cap of all males. Males in their first year generally retain a gray cap, while older birds acquire a black cap.

2. Eggs--pure, unpatterned white, unique to the genus except *V. nelsoni*.

3. Body measurements (Tazik, unpublished data from Fort Hood, Texas)

	N	Mean	S.E.
Wing	188	56.9	0.059
Bill length	89	13.2	0.028
Tail	172	44.6	0.035
Weight	196	10.8	0.032

C. Vocalizations--(Marshall *et al.* 1985). Complicated song of phrases containing rapidly uttered notes that range widely in pitch, and are more musical and varied than that of other vireos. The most rapid of these are thrush-like. Tapes are on file at the Bioacoustic Archive, Florida State Museum, University of Florida (also Barlow 1981). Song similar to that of *V. nelsoni* except for a mandatory short trill in *V. atricapillus* that rounds off each phrase at a lower pitch than the body of the song. Alarm and conversation calls between members of a pair consist of a low harsh shrub; a di-di-di-di that may precede the shrub; various faint lisping notes and peeps; and a dividing of the shrub into a

series of short, equal segments making a grating sound similar to the Ruby-crowned kinglet (*Regulus calendula*).

D. Local field characters—(Marshall *et al.* 1985). The striking head pattern is distinctive. Excepting *V. nelsoni*, the most similar plain greenish bird is the Solitary Vireo (*V. solitarius*) with its narrower white spectacles, and bluish gray cap that contrasts with the greenish back of all but the plumbeous races. However, the Solitary Vireo is much larger than the Black-capped and nests in a different habitat and geographic area. Its white eye ring cum lores is shaped like a candy cane without the black interruption above the eye. *V. nelsoni* is similar in appearance to the female *V. atricapillus*, except that the former is darker, has a more olive green cap and duller body, and more cream-colored, less bright wing bars.

E. Identifying characteristics of material which is in interstate or international commerce or trade—Not applicable.

F. Photographs and/or line drawings, i. available

1. Adults—Yes; most recent field guides; J.A. Grzybowski, Norman, OK; D.J. Tazik, Champaign, IL.

2. Immatures—Unknown.

3. Museum specimens—Oklahoma Museum of Natural History; National Museum of Natural History.

4. Significance of taxon (Marshall *et al.* 1985)

A. Natural—Locally common and an important ecological component of a very particular oak scrub habitat of its limited breeding range. It is an excellent indicator of the habitat type occupied because it is more narrowly restricted than any of its habitat associates, such as Yellow-breasted Chat (*Icteria virens*), Rufous-crowned Sparrow (*Aimophila ruficeps*), Painted Bunting (*Passerina cirris*), and Black-crested Titmouse (*Parus atricristatus*). Along with the Golden-cheeked Warbler (*Dendroica chrysoparia*), one of the few species to nest on the steep rims of dry arroyos.

B. Human—The striking color pattern and effusive song make this is an especially attractive bird to ornithologists and amateur birders, many of whom keep track of known nesting territories each year in various cities in Texas and Oklahoma. It is among the three most famous birds of Texas, the Golden-cheeked Warbler and Colima Warbler (*Vermivora crissalis*) being the other two. This vireo also is of considerable scientific interest because of its limited distribution, unclear relationship to *V. nelsoni*, and its distinction among vireos as the only species with white eggs, sexual dimorphism, winter molt of the crown, and striking face pattern.

5. Geographic distribution

A. Geographic Range—(Marshall *et al.* 1985). Formerly bred from Kansas through Oklahoma and Texas to central Coahuila, Mexico with an outlying or temporary colony in Nuevo Leon. Accidental summer records in Nebraska, New Mexico, Louisiana, and the base of Cerro Potosi, southern Nuevo Leon. Migrants are known from around the perimeter of the Mexican Plateau, winter residents from Sonora to Oaxaca, but mostly in Sinaloa and Nayarit. The present breeding range is from south-central Oklahoma through central Texas to central Coahuila.

B. Precise occurrence

1. Populations currently or recently known extant

a. Military

1. Fort Sill

a. Nation, State, County--USA, Oklahoma, Comanche County.

b. Latitude $34^{\circ}40'00''$ to $34^{\circ}45'00''$
Longitude $98^{\circ}30'30''$ to $98^{\circ}37'30''$
UTM Northing: $38^{\circ}37'00''$ to $38^{\circ}42'00''$
Easting: $3^{\circ}34'500''$ to $3^{\circ}43'500''$

c. Range, Township, Section

T3N R13W Sec 24, 28, 31, 32
T3N R14W Sec 36

d. Pertinent 1:24000 US Geological Survey topographic quadrangles (7.5 minute series)

Quanah Mountain, OK, 1975
Mount Scott, OK, 1970
Fort Sill, OK, 1970
Arbuckle Hill, OK, 1970

e. Year of initial discovery--A record for the vireo on Fort Sill dates to 1943 (Grzybowski 1985a). More recent observations were made in 1985 by D. and T. Clark.

f. Year and nature of most recent observation or collection--Inventory and monitoring was conducted during 1988 through 1990 to evaluate status of the population (Grzybowski and Tazik 1990). Monitoring will continue in future years.

g. Location description--(see Figure 1 and h below).

h. Alternativ...nes--Colony site names and approximate locations follow:
Training

Site Name	Areas	Northing	Easting
Arapaho Point	J3	$38^{\circ}38'000''$	$5^{\circ}35'000''$
Mount Sherman	J1	$38^{\circ}38'500''$	$5^{\circ}38'500''$
Pratt Hill	F2	$38^{\circ}41'500''$	$5^{\circ}43'500''$

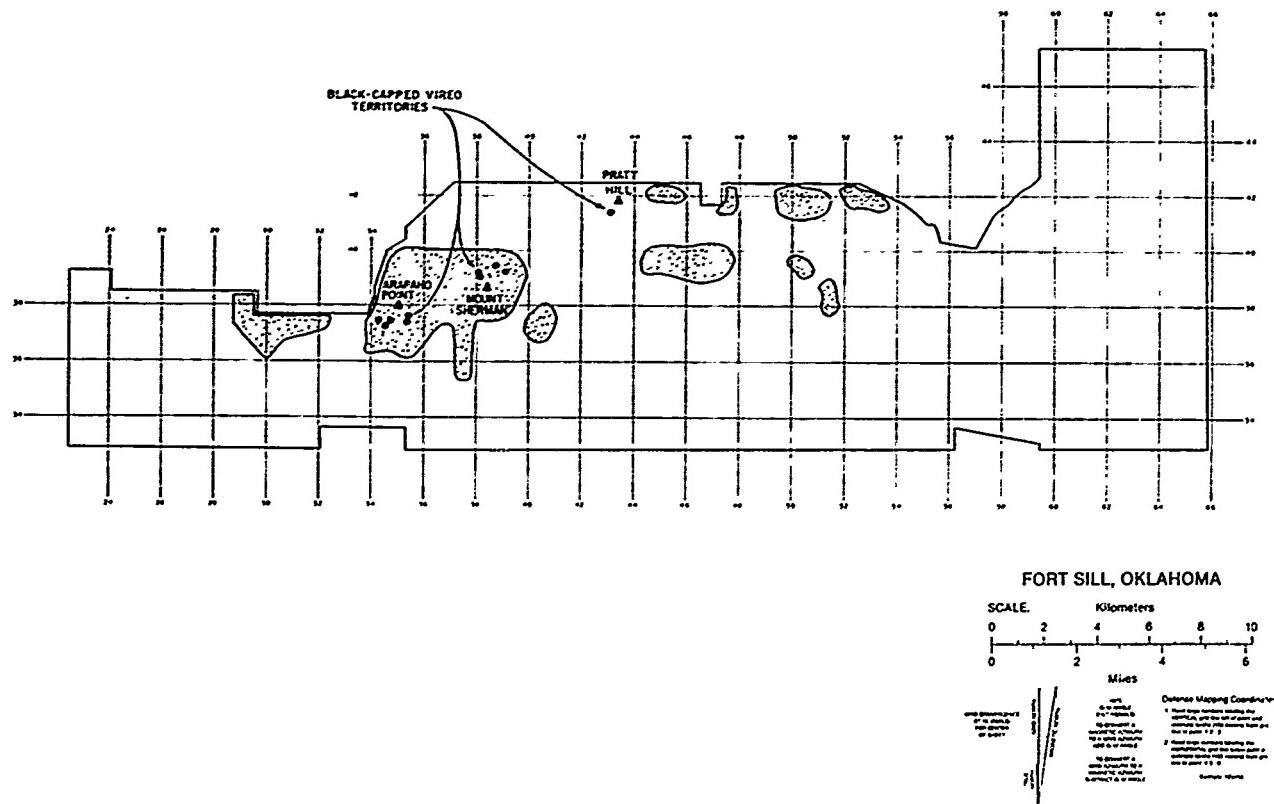


Figure 1. Location of Black-Capped Vireo Colony Sites on Fort Sill, Oklahoma during 1988 through 1990.

2. Fort Hood

- a. Nation, State, County--USA, Texas, Bell and Coryell Counties.
- b. Latitude $31^{\circ} 02' 30''$ to $31^{\circ} 22' 30''$
 Longitude $97^{\circ} 30' 00''$ to $97^{\circ} 52' 30''$
 UTM Northing: $^3436^{000}$ to $^3472^{000}$
 Easting: $^607^{000}$ to $^641^{000}$
- c. Range, Township, Section--Not available.
- d. Pertinent 1:24000 US Geological Survey topographic quadrangles (7.5 minute series)

Gatesville West, TX, 1979
 Gatesville East, TX, 1979
 Pidcock, TX, 1958
 Shell Mountains, TX, 1958
 North Fort Hood, TX, 1958

Leon Junction, TX, 1978
 Twin Mountains, TX, 1978
 Fort Hood, TX, 1978
 Post Oak Mountain, TX, 1978
 Bland, TX, 1978
 Copperas Cove, TX, 1978
 McMillan Mountains, TX, 1978
 Killeen, TX, 1974
 Nolanville, TX, 1974

e. Year of initial discovery--First reported in 1979 (Severinghaus *et al.* 1980). Rediscovered in 1985 by John Cornelius (Fort Hood Fish and Wildlife Section).

f. Year and nature of most recent observation or collection--A status survey was conducted from 1987 through 1989. This resulted in complete enumeration of the population (Tazik *et al.* 1990a), habitat characterization (Tazik *et al.* 1990b), evaluation of population and nesting ecology (Tazik and Cornelius 1990), and a biological assessment (Tazik *et al.* 1990c). Monitoring was conducted during 1990, and will continue in the future.

g. Location description--Colony sites are widely scattered over the entire parcel (see Figure 2 and below). Precise locations are available on the Fort Hood GRASS geographic information system.

h. Alternative site names--Known colony site names and approximate locations are as follows:

Site Name	Training Areas	Northing	Easting
<i>Non-Live Fire Zone</i>			
Area 2 (AR 2)	2, 4, 5	3455 ⁰⁰⁰	632 ⁰⁰⁰
Area 6 (AR 6)	6	3452 ⁰⁰⁰	639 ⁷⁰⁰
Area 12 (AR12)	12	3448 ⁰⁰⁰	629 ⁷⁰⁰
Red Bluff (REBL)	3	3456 ⁰⁰⁰	635 ²⁰⁰
Brookhaven Mt. (BHMT)	13	3450 ⁰⁰⁰	631 ⁵⁰⁰
Manning Mt. (MAMT)	44	3458 ²⁰⁰	616 ⁵⁰⁰
	44	3459 ⁰⁰⁰	616 ⁶⁰⁰
	44	3459 ⁸⁰⁰	617 ⁷⁰⁰
	44	3461 ⁰⁰⁰	618 ⁷⁰⁰
	44	3462 ⁷⁰⁰	615 ³⁰⁰
Williamson Mt. (WMSP)	43	3462 ⁰⁰⁰	610 ⁹⁰⁰
Shell Pt. (WMSP)	45	3462 ²⁰⁰	611 ⁸⁰⁰
Northwest Fort Hood (NWFH)	51	3469 ⁸⁰⁰	613 ⁴⁰⁰
	52	3471 ⁰⁰⁰	613 ⁵⁰⁰
	53	3467 ²⁰⁰	616 ³⁰⁰
West Fort Hood (WEFH)	22	3440 ⁰⁰⁰	607 ⁰⁰⁰
	24	3437 ⁵⁰⁰	607 ⁶⁰⁰

<i>Live Fire Zone</i>			
Area 75 (AR75)	75	$^{34}57^{\text{000}}$	$^{\text{6}}27^{\text{900}}$
Robinette Point (ROPT)	80	$^{34}59^{\text{800}}$	$^{\text{6}}20^{\text{700}}$
Rambo Point (RAPT)	80	$^{34}59^{\text{000}}$	$^{\text{6}}22^{\text{500}}$
	66	$^{34}60^{\text{800}}$	$^{\text{6}}23^{\text{500}}$
Brown's Creek (BCRA)	65	$^{34}63^{\text{200}}$	$^{\text{6}}18^{\text{800}}$
Jack Mt. (JAMT)	82	$^{34}57^{\text{000}}$	$^{\text{6}}17^{\text{500}}$
Ruth Cemetery (RUCE)	64	$^{34}66^{\text{000}}$	$^{\text{6}}24^{\text{000}}$
Dalton Mt. (DAMT)	61	$^{34}68^{\text{700}}$	$^{\text{6}}22^{\text{800}}$
Henson Mt. (HEMT)	63	$^{34}466^{\text{700}}$	$^{\text{6}}20^{\text{500}}$
Area 81 (AR81)	81	$^{34}56^{\text{000}}$	$^{\text{6}}26^{\text{600}}$
Lone Mt. (LOMT)	91	$^{34}49^{\text{700}}$	$^{\text{6}}18^{\text{400}}$
Pilot Knob Range (PKRA)	91	$^{34}48^{\text{500}}$	$^{\text{6}}18^{\text{000}}$
	82	$^{34}47^{\text{800}}$	$^{\text{6}}20^{\text{200}}$

3. Camp Bullis Training Site

- a. Nation, State, County--USA, Texas, Bexar and Comal Counties.
- b. Latitude $29^{\circ}37'30''$ to $29^{\circ}42'30''$
 Longitude $98^{\circ}32'30''$ to $98^{\circ}37'30''$
 UTM Northing: $^{32}78^{\text{800}}$ to $^{32}86^{\text{000}}$
 Easting: $^{\text{5}}37^{\text{000}}$ to $^{\text{5}}43^{\text{500}}$
- c. Range, Township, Section--Not available.
- d. Pertinent 1:24000 US Geological Survey topographic quadrangles (7.5 minute series)
 - Castle Hills, TX 1973
 - Bergheim, TX 1973
 - Camp Bullis, TX
- e. Year of initial discovery--There is a report of a sighting before 1977 (Pulich 1976). Further documentation was obtained during 1989 (Shaw *et al.* 1990).
- f. Year and nature of most recent observation or collection--During 1990, a resurvey was completed that confirmed results of the 1989 survey (Rust and Tazik 1990). Territories were mapped and nesting data were obtained.
- g. Location description--(see Figure 3 and below).
- h. Alternative site names--Site names and approximate locations follow:

Site Name	Training		
	Areas	Northing	Easting
King's Ridge	1	$^{32}85^{\text{900}}$	$^{\text{5}}42^{\text{800}}$
Otis Ridge	7,8	$^{32}81^{\text{900}}$	$^{\text{5}}41^{\text{900}}$
Hogan Ridge	8	$^{32}79^{\text{500}}$	$^{\text{5}}42^{\text{500}}$
Davis Ridge	8	$^{32}78^{\text{900}}$	$^{\text{5}}43^{\text{100}}$
Aue Hill	14	$^{32}82^{\text{100}}$	$^{\text{5}}37^{\text{500}}$

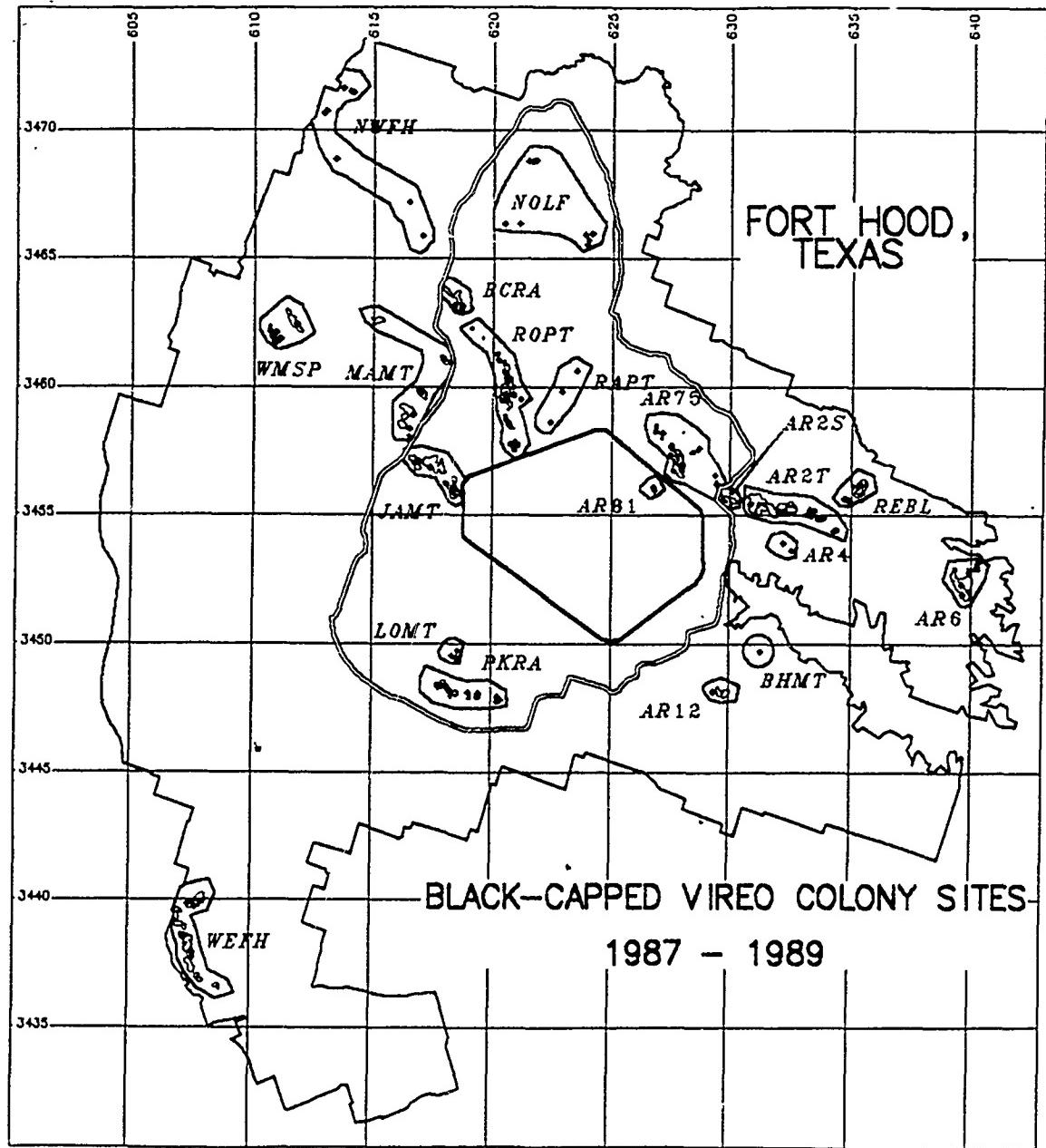


Figure 2. Location of Black-capped Vireo Colony Sites on Fort Hood, Texas during 1987 through 1990.

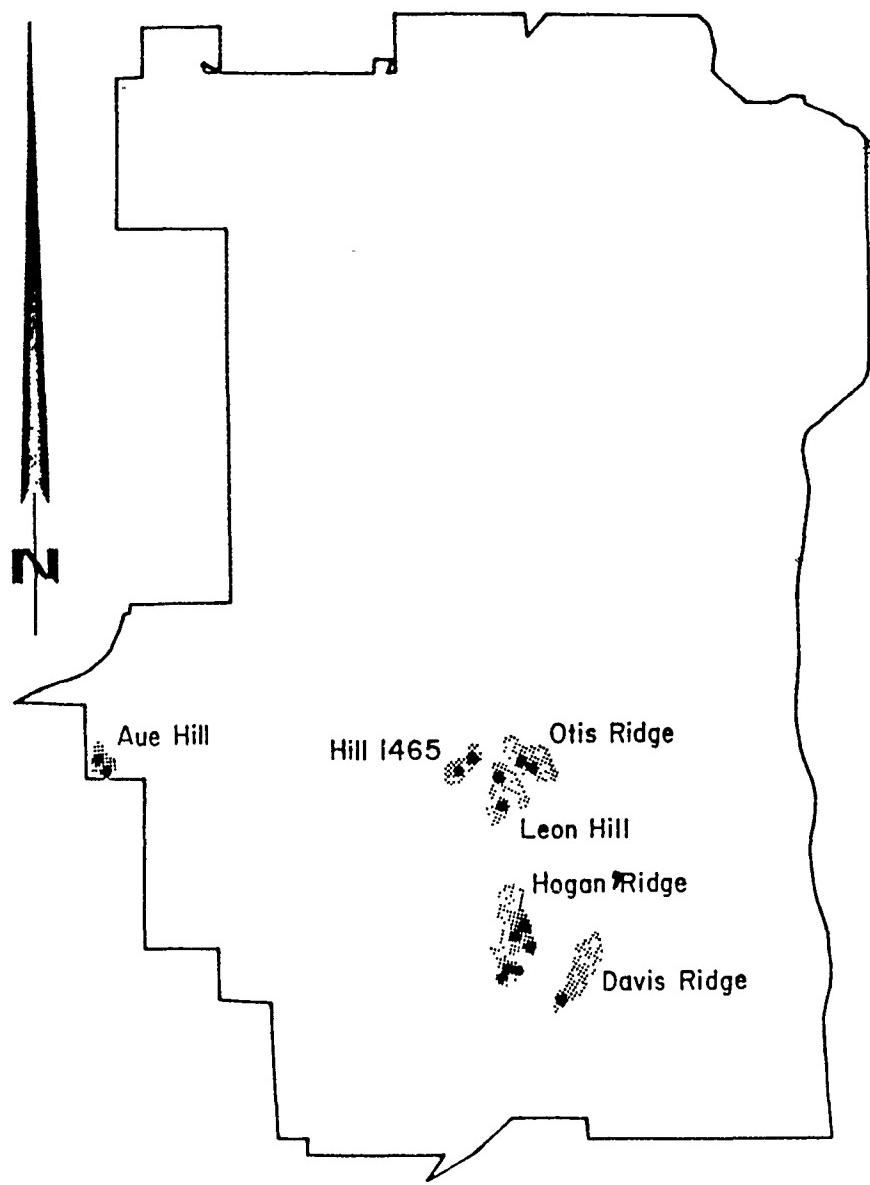


Figure 3. Locations of black-capped Vireo sightings on Camp Bullis during 1989.

b. Nonmilitary locations (general)

1. Oklahoma (breeding)

- a. Blaine County--Salt Creek
- b. Caddo County--Scott
- c. Canadian County--Niles, Methodist Canyon Camp, and County Line.
- d. Comanche County--Wichita Mountains National Wildlife Refuge [Hobbs Canyon, Cedar Mountain, Panther Creek, Greenleaf Canyon, North Mountain, Moko, Mountain, Elk Mountain, Charons Garden].

2. Texas (breeding)

- a. Bandera County--Lost Maples State Park.
- b. Bexar County-- Friedrich Park.
- c. Blanco County--East of Blanco.
- d. Brewster County--Big Bend National Park.
- e. Burnett County--Marble Falls.
- f. Coke County--Callahan Divide.
- g. Crockett County--Fort Lancaster Ruins.
- h. Dallas County--Greenhills Environmental Center.
- i. Edwards County
 1. Highway 674, 17 miles south of Rocksprings
 2. Nueces River 3 miles south of Barksdale.
- j. Erath County--Bluff Dale.
- k. Irion County--observed in center of county in 1977.
- l. Kerr County
 1. West Spicer Drive at Dewberry Hollow, previously Lacey's Ranch and many eggs. Many nests and study skins in museum collections were taken from this location.
 2. Vicinity of Harper--Reservation, Lazy, and Elm Pass Roads.
 3. Yo Ranch west of Mountain Home.

4. Kerr Wildlife Management Area.

5. South Fork Ranch.

m. Kimble County--Walter Buck Wildlife Management Area.

n. Pecos County--Highway 285 Roadside Park (1974).

o. Somerville County

1. Picnic Area on Highway 67 near Chalk Mountain.

2. Dinosaur Valley State Park.

p. Sutton County--Devil's River.

q. Taylor County--Highway 277 northwest of Abilene State Recreational Area.

r. Terrell County--Mouth of Independence Creek.

s. Tom Green County--S Ranch.

t. Travis County

1. Wild Basin and Davenport Ranch.

2. Nameless Valley Ranch and Nameless Valley Road.

3. South and west of Four Points.

4. Bull Creek north of Highway 360.

5. City Park Road.

u. Uvalde County--Neal's Lodge.

3. Mexico (breeding)

a. Coahulia

1. 29°00'N, 102°00'W

2. 28°39'N, 102°19-20'W

3. 27°06'N, 102°26'W

4. 26°27'N, 101°34'W

4. Mexico (migrants)

a. Nuevo Leon--26°02'N, 99°45'W

b. Tamaulipas--23°36'N, 99°13'W

c. Hidalgo--Jacala.

5. Mexico (winter)

a. Sinaloa--Concordia

b. Nayarit

1. El Pescadaro.

2. Jumatan to El Espino, northwest of Tepic.

3. 5 miles northwest of Tepic.

4. Las Varas.

2. Populations extirpated

a. Kansas--formerly recorded in Doniphan, Riley, Harvey Cowley, Hodgeman, Gray, and Comanche Counties (Graber 1957).

b. Oklahoma--formerly reported from Beaver, Alfalfa, Major, Dewey, Payne, Creek, Tulsa, Logan, Oklahoma, Cleveland, Gravin, Murray, and Kiowa Counties (Grzybowski, *et al.* 1986).

c. Texas--formerly known from Bastrop, Callahan, Cameron, Comal, Comanche, Concho, Eastland, Ellis, Fayette, Gillespie, Hays, Kendall, Kinney, Lee, Llano, Mason, McLennan, Medina, Menard, Reagan, Real, Tarant, and Valverde Counties (Graber 1957).

d. Mexico--unknown.

3. Historically known population where current status is not known--unknown.

4. Locations not yet investigated believed to support additional populations--Access to private lands in Texas has hindered location of existing populations. The total population probably is much larger than the presently documented population of 1500 to 2000 adults (Grzybowski, *pers. commun.*).

C. Biogeographical and phylogenetic history of taxon--Incomplete

6. General environment and habitat description

A. Concise statement of general environment and habitat--Found in midsuccessional hardwood scrub that exhibits a patchy or clumped distribution and hardwood foliage to ground level. Trees are sometimes scattered through the brush. Scrubby oaks (*Quercus*) often dominate or are a major feature of the habitat. Areas with dense live juniper (*Juniperus*) typically are avoided. Preferred habitat often results from fire within stands of mature oak-juniper, but may develop from other disturbances as well. Habitat remains suitable for 5 to 25 years after fire. Steep rocky slopes where erosion and boulders hold back succession can maintain habitat for long periods.

B. Physical characteristics

1. Climate

a. Koppen climate classification (Visher 1954).

1. Fort Sill--Cfa: warm temperate climate with rains at all seasons and warm summers; average January temperature below 18° C but above 0° C; no dry season; driest summer month receives greater than 3 cm of rain; average temperature of warmest month above 22° C.
2. Fort Hood--Cfa: as above.
3. Camp Bullis--Cfa: as above.
4. Other parts of range--BSw: steppe climate with dry winters. BShw: excess of evaporation over precipitation; precipitation numerically greater than 14 plus the temperature (°C) but less than 14 plus twice the temperature.

b. Regional macroclimate (Bailey 1980).

1. Fort Sill--Lies within the Tall Grass Prairie Province. Annual precipitation approaches 100 cm. Average annual temperature 18° C.
2. Fort Hood--Lies within the Prairie Brushland Province where summers are long and hot and winters short and mild. Annual temperatures average 15 to 20° C. The frost-free seasons ranges from 250 to 300 days. Precipitation ranges from 50 to 75 cm and falls primarily during the growing season. Annual evaporation is 180 to 200 cm. From May to October, potential evaporation is about twice the precipitation.
3. Camp Bullis--same as at Fort Hood.

c. Local microclimate

1. Fort Sill (NOAA 1982; based on Lawton, OK)

a. Mean annual precipitation--29.2 inches.

b. Mean annual temperature--62.1° F.

c. Mean monthly precipitation and temperature

Month	Precipitation (inches)	Temperature (° F)	
		Maximum	Minimum
Jan	1.07	51.2	26.3
Feb	1.17	56.8	30.5
Mar	1.83	65.5	38.4
Apr	2.41	75.5	49.8
May	5.69	82.7	58.3
Jun	3.57	90.9	67.0
Jul	2.51	96.4	71.0

Aug	2.15	95.9	69.5
Sep	2.98	87.9	62.2
Oct	2.85	77.5	50.4
Nov	1.75	63.5	38.2
Dec	1.22	54.7	29.7

2. Fort Hood (NOAA 1982; based on Temple, TX)

a. Mean annual precipitation--33.75 inches.

b. Mean annual temperature--66.6° F.

c. Mean monthly precipitation and temperature

Month	Precipitation (inches)	Temperature (° F)	
		Maximum	Minimum
Jan	1.94	57.4	35.7
Feb	2.57	61.6	39.0
Mar	1.97	69.5	45.9
Apr	3.56	77.6	55.7
May	4.65	83.7	63.3
Jun	2.94	91.3	70.2
Jul	1.75	95.7	73.5
Aug	2.50	95.9	73.0
Sep	3.51	89.5	67.8
Oct	3.30	80.6	57.2
Nov	2.69	68.1	45.7
Dec	2.69	60.9	38.4

3. Camp Bullis (NOAA 1982; based on San Antonio, TX)

a. Mean annual precipitation--29.13 inches.

b. Mean annual temperature--68.7° F.

c. Mean monthly precipitation and temperature

Month	Precipitation (inches)	Temperature (° F)	
		Maximum	Minimum
Jan	1.55	61.7	39.0
Feb	1.86	66.3	42.4
Mar	1.33	73.7	49.8
Apr	2.73	80.3	58.8
May	3.67	85.5	65.5
Jun	3.03	91.8	72.0
Jul	1.92	94.9	74.3
Aug	2.69	94.6	73.7
Sep	3.75	89.3	69.4
Oct	2.88	81.5	58.9
Nov	2.34	70.7	48.2
Dec	1.38	64.6	41.4

- 2. Air and water quality requirements--unknown.**
- 3. Physiographic province--**Primarily Edward's Plateau and Osage Plains within the Great Plains (Robbins *et al.* 1986).
- 4. Physiographic and topographic characteristics--**Distribution of potential habitat is related to elevation, slope, and aspect (Tazik *et al.* 1990a). Observed primarily on upland plateau remnants, side slopes, and bouldered hillsides supporting preferred habitat. At Fort Hood, preferences are for elevations over 300 meters, slopes over 10 percent, and west facing slopes.
- 5. Edaphic factors--**Distribution of potential habitat also is related to geology and soils (Tazik *et al.* 1990a). Upland soils over both loose and dense limestone are preferred on Fort Hood, Texas; i.e., Ekrant and Real-Rock soils over Edward's and Comanche Peak Limestone.
- 6. Dependence of this taxon on natural disturbance--**Habitat usually results from fire in stands of mature oak- juniper woodland. Other disturbance that sets back succession may also lead to suitable habitat.

- 7. Other unusual features--unknown.**

C. Biological characteristics

- 1. Vegetation physiognomy and community structure**
 - a. General--**Preferred habitat is dominated by hardwood scrub although live and dead trees may be scattered among clumps of brush. Hardwood foliage extends from ground level mostly up to about 3 meters in height. Extensive tree growth and juniper invasion makes habitat less desirable. Species commonly found in vireo territories on Fort Hood include shin oak (*Q. sinuata*), flame-leaved sumac (*Rhus lanceolata*), Ashe juniper (*J. ashei*), Texas oak (*Q. texana*), skunkbush sumac (*R. aromatica*), red bud (*Cercis canadensis*), and Texas Ashe (*Fraxinus texensis*). On Fort Sill, black-jack oak (*Q. marilandica*) was the dominant woody plant species. While plant species composition of the habitat varies throughout the range, habitat structure appears to be consistent.
 - b. Nest sites--**Most commonly used nest substrates in order of importance on Fort Hood are shin oak, Texas oak, red bud, Texas Ashe, flame-leaved sumac, Ashe juniper, Carolina buckthorne (*Rhamnus caroliniana*), and Mexican buckeye (*Ugnadia speciosa*). Pendulous nests are located in narrow stemmed forks of woody vegetation. Nest height averages about 1 meter above ground, with 95 percent of nests between 0.5 and 2.0 meters.
 - c. Foraging sites--**Foliage gleans among woody vegetation in shrub and lower canopy layers; never on the ground. Foraging substrate selection has not been quantified.
- 2. Regional vegetation type (Bailey 1980).**
 - a. Fort Sill--**Tall-Grass Prairie Province: includes tall and mid-grasslands. Woody vegetation is rare except on the cottonwood floodplains.
 - b. Fort Hood--**Prairie Brushland Province: arid grasslands with shrubs and low trees growing singly or in small clumps. On the Edward's Plateau, oak and juniper often are mixed with grasses and/or mesquite.

c. Camp Bullis—Same as Fort Hood.

3. Frequently associated species—A wide variety, but most commonly Black-crested Titmouse (*Parus atricristatus*), Yellow-breasted Chat (*Icteria virens*), Bewick's Wren (*Thryomanes bewickii*), Rufous-crowned Sparrow (*Aimophila ruficeps*), Northern Cardinal (*Cardinalis cardinalis*), and Painted Bunting (*Passerina ciris*). The Bell's (*V. belli*) and White-eyed (*V. griseus*) Vireos often occur in the same or adjacent habitats.

4. Dominance and frequency—not applicable.

5. Successional phenomena—not applicable.

6. Dependence on dynamic biotic features—Habitat is mostly ephemeral, requiring periodic maintenance using fire or mechanical means to remove junipers and to maintain cover dominated by hardwoods up to about 3 meters.

7. Other endangered species—Although not usually in the same habitat, the federally endangered Golden-cheeked Warbler (*Dendroica chrysoparia*), may be found in adjacent mature oak-juniper woodlands.

7. Population biology

A. General summary—A review by Marshall *et al.* (1985) put the adult breeding population at about 592 to 1,130 -- Oklahoma-120, Texas-376 to 748, Mexico-96 to 262. Recent discoveries increase the documented population to about 1,500. The actual population probably is much larger as there undoubtedly are many as yet undiscovered populations on private lands within Texas and in Mexico.

B. Demography

1. Known population

a. Texas—Numerous populations throughout central Texas now amount to over 1,000 known breeding adults (Marshall *et al.* 1985, Grzybowski 1989a). Recently, Grzybowski estimated that there may be 1,000 adults in Kerr County alone. The most significant populations occur at Fort Hood (280), Devil's River (circa 200), Kickapoo Caverns State Park (circa 160), and Kerr Wildlife Management Area (70 to 75). Others include Lost Maples State Natural Area (40), South Fork Ranch (32-33), Walter Buck Wildlife Management Area (20), and Davenport Ranch/Wild Basin (29) (Grzybowski 1989a). An exhaustive list is presented by Marshall *et al.* (1985).

b. Oklahoma—102 to 106 adults were observed at eight localities during 1987 (Grzybowski 1988a). The most significant population remains on the Wichita Mountains National Wildlife Refuge adjacent to Fort Sill in Comanche County (86 to 88 adults). During 1990, 120 to 131 adult vireos were observed within the Wichita Mountains (Grzybowski 1989b). Others occur in Blaine, Canadian, and Caddo Counties.

c. Mexico—Marshall *et al.* (1985) estimate 96 to 262 adults.

2. Demographic details

a. Fort Sill, Oklahoma

- 1. Area of population--Less than 20 to 40 ha.**
 - 2. Number and age class--17 to 18 adults recorded in 1988, 6 in 1989, and 8 in 1990.**
 - 3. Density--Unknown.**
 - 4. Evidence of reproduction--Several nests recorded during 1987 through 1990.**
 - 5. Evidence of population expansion or decline-- Oklahoma population is gravely endangered. Number on Fort Sill may be dependent upon production on the adjacent Wichita Mountains National Wildlife Refuge.**
- b. Fort Hood, Texas**
- 1. Area of population--550 ha in numerous colony sites.**
 - 2. Number and age class--277 adults in 143 territories were documented in 1989. Population included approximately 36 second year (SY) and 241 after second year (ASY) adults.**
 - 3. Density--Territory size averaged 3.61 ha yielding 27.7 territories per 100 ha of occupied habitat. As 93.8 percent of males were mated, this yields about 52 adults per 100 ha of occupied habitat.**
 - 4. Evidence of reproduction--423 nestings were observed over a 4-year period from 1987 through 1990.**
 - 5. Evidence of population expansion or decline--Annual population appears stable, but regional population may be in decline. This is suggested by the low number of SY birds present. The Fort Hood population may be held stable by immigration from areas off-post.**

c. Camp Bullis Training Site, Texas

- 1. Area of population--50 ha during 1990.**
- 2. Number and age class--Approximately 35 to 36 adults estimated in 1989 and 1990.**
- 3. Density--Twelve territories averaged 2.8 ha, yielding 36 territories per 100 ha.**
- 4. Evidence of reproduction--Three nests were observed in 1990.**
- 5. Evidence of population expansion or decline--Unknown.**

C. Phenology

- 1. Patterns--Individuals migrate north to arrive at breeding areas during March and April. Return migration takes place during August and September.**
- 2. Relation to climate--Individuals arrive later on breeding sites in the northern part of the range than in the southern part. Grabr (1957, 1961) thought that climate might be a factor limiting the northward expansion of the range.**

D. Reproductive biology

1. Mating System--Monogamous.

2. Type of Reproduction--Sexual.

3. Mode of Reproduction--Pairs build nests in which up to 4 eggs are deposited. The nest cycle includes: construction (4-5 days), inactive construction (1 day), laying (4 days), incubation (14-17 days beginning after egg 2 or 3), brooding of nestlings (11 days), and fledgling (40+ days) (Graber 1961). Pairs will renest many times after unsuccessful nests.

4. Overall assessment of taxon's reproductive success--Poor success has been recorded throughout its range due to the effects of cowbird nest parasitism. Nest success among unparasitized nests on Fort Hood was estimated at 2 times that of parasitized nests (25 vs 12 percent) (Tazik and Cornelius 1990). Efforts to control cowbirds on Fort Hood have been unsuccessful. Cowbird control has not been attempted on Camp Bullis nor on Fort Sill. Cowbird parasitism ranged from 65 to 91 percent on Fort Hood during 1987 to 1990 (Tazik and Cornelius 1990), and has averaged about 73 percent throughout the range (Grzybowski 1989a). Predation also is an important factor limiting reproductive success and may become more important with a reduction in cowbird parasitism.

8. Population ecology of species

A. General summary of population of taxon--Black-capped Vireos typically reproduce most successfully in colony sites where individuals reinforce each others singing and other reproductive behavior. The species appears well adapted to locating new habitat patches away from natal sites.

B. Positive or neutral interactions with other species --Co-exists with a wide variety of song bird species.

C. Negative interactions with other species

1. Predators--Direct predation of adults rarely has been observed.

2. Parasites--Appears to be unusually free of ectoparasites and disease (Graber 1961).

3. Competition

a. Intraspecific--Mated pairs are territorial.

b. Interspecific--Although territories sometimes overlap with those of the White-eyed and Bell's Vireos, direct competition has not been observed.

D. Foraging ecology and food resources

The vireo is a foliage gleaning insectivore that forages among the trees and shrubs in its habitat. It does not feed on the ground (Graber 1961). Foraging substrate preferences have not been quantified.

Various insect larvae constitute the bulk of the diet. Lepidopteran larvae predominate followed by Coleopteran larvae. Other animal matter include spiders, centipedes, Neuroptera, Odonata, Hemiptera, and Homoptera. The young are fed small larvae, with food items increasing in size as the young grow. Grasshoppers and other Orthopterans may contribute as much as one-third of their diet.

E. Hybridization

- 1. Naturally occurring--Unknown.**
- 2. Artificially induced--Unknown.**

F. Other factors of population ecology

- 1. Survivorship--Adult annual survivorship estimated at 60 percent for major colony sites on Fort Hood. Small satellite colony sites tend to exhibit a lower return frequency than large colony sites (Grzybowski 1990).**
- 2. Military impacts--There is no evidence of significant impact of military activity on survivorship or reproductive success. However, although military activity appears to have benefitted the species as a result of fire frequency, there is the potential for significant impacts if colony sites are inadequately protected from tactical vehicle activity.**

9. Current land ownership and management responsibility

- A. General--Federal, Department of Defense.**
- B. Specific landowner--U.S. Army.**
 - 1. Fort Sill--38,160 ha.**
 - 2. Fort Hood--87,890 ha.**
 - 3. Camp Bullis--11,280 ha.**

C. Management responsibility

- 1. Fort Sill--Gene Stout, Natural Resources Division, DEH, Fort Sill, OK.**
- 2. Fort Hood--Dennis Herbert, Fish and Wildlife Section, DEH, Fort Hood, TX.**
- 3. Camp Bullis--Dusty Bruns, Land Management Office, Camp Bullis Training Site, Fort Sam Houston, TX.**

D. Easements, conservation restrictions, etc.--None.

10. Management practices and experiences

A. Habitat Management

1. Review of past management and land use experiences

a. General

- 1. Fort Sill--Established as an isolated cavalry post in 1869. The area was sparsely populated by Indian tribes for several thousand years before this time. The only major disturbances were from bison grazing and fires of natural or Indian origin (Johnson *et al.* 1990). The fort has been an artillery training center since 1946. Various grazing and**

farming activities did occur before acquisition of a large part of the area in 1940. Since 1957, there has been no domestic grazing on the post. However, grazing of buffalo and long-horn cattle is managed on the adjacent Wichita Mountains National Wildlife Refuge. About 3,360 ha are used for the cantonment area, 32,000 for training areas, and 3,200 for nonfiring activities. Approximately 14,160 ha are leased for haying. A total of 840 ha are under oil and gas leases.

2. Fort Hood (Nakata 1987)--A military presence was first established in the region in 1849 with Fort Gates on the Leon River. The post was established to protect settlers from Indians. A more extensive training camp was established in 1942 to prepare troops for World War II tank destroyer combat. Since 1946, the post has housed and supported various armored divisions and since 1971 has been the only installation with two divisions. Historically, the area has been heavily grazed by cattle. The present lease agreement allows up to 3500 animal. The live fire zone includes over 25,100 ha, including a 8,700 ha multipurpose maneuver area. Maneuver areas comprise about 53,400 ha. Controlled burns and mechanical methods have been used to improve range conditions -- primarily removal of Ashe juniper. During 1986 through 1989, nearly 10,000 ha were mechanically or hand cleared, while 13,760 ha, primarily grasslands, were burned.

3. Camp Bullis (Bruns 1988)--Historically, this region was inhabited by hunting and gathering Indian tribes. An Army instruction camp, then known as Camp Funstun, was established between 1906 and 1908, and was used about 3 months per year until 1915 when it was occupied by the 3rd Brigade Maneuver Division. What became known as Camp Bullis in 1919, expanded to 11,280 ha by 1941. During World Wars I and II, the Camp was used for rifle and field training. The area continues to be used for field training and known distance firing. The area is grazed by cattle. Chemical and mechanical means as well as controlled fires are used to control vegetation in order to improve range conditions. Up to 160 ha of Ashe juniper per year are controlled by these methods.

b. This taxon--Past management actions have not been directed at this taxon on any of these installations. However, in general, fires set by Indians prior to extensive settling of the region may have created much habitat.

2. Performance under changed condition

a. **Fort Sill**--Habitat here appears to exist under natural conditions. Military activities normally do not infringe on these areas. However, reproduction has been poor due to nest parasitism by the Brown-headed Cowbird which appears to travel to existing colony site locations from the Wichita Mountains National Wildlife Refuge.

b. **Fort Hood**--The increased fire frequency due to military activities appears to have created much of the existing habitat on the installation. However, the unnatural abundance of cowbirds in the region due to extensive cattle grazing has reduced reproductive success.

c. **Camp Bullis**--Habitat here also has been enhanced by military activity. The extent of cowbird parasitism has not been documented to date.

3. Current management policies and actions--Management authorities on each installation are well aware of the requirements of the vireo. Each installation has established a proactive policy for compliance with the Endangered Species Act, and for development of protection and management plans.

- a. **Fort Sill**--This vireo population has been studied from 1988 through 1990. An endangered species management plan will be prepared during 1991.
- b. **Fort Hood**--Studied since 1987, a biological assessment is in preparation. Colony sites are being signed, and guidelines have been issued to troops to ensure protection. Fires are closely tracked to prevent inadvertent destruction of known colony sites. Vegetation control activities are coordinated through the Fish and Wildlife Section.
- c. **Camp Bullis**--Inventories were conducted during 1989 and 1990. Land use activities are being monitored to avoid any harm to the population.

4. Future land use--Military activities and other existing land uses will continue on each area for the foreseeable future. At Fort Hood, the existing cattle grazing regime may be modified significantly or eliminated. Such action may benefit a wide variety of song birds including the vireo and the endangered Golden-cheeked Warbler, and enhance the capability of the land to support continued maneuver training.

B. Cultivation--Not applicable.

11. Evidence of threats to survival

A. Present or threatened destruction, modification, or curtailment of habitat or range--Continuation of Army mission activities is not an unavoidable threat to the vireo's habitat. In fact, military activity appears to have enhanced availability of the habitat.

1. **Past threat**--In recent times, probably same as existing threats.
2. **Existing threat**--Major threats throughout the range of the vireo include: (i) loss of habitat due to urban development, excessive rangeland improvement, grazing by domestic herbivores, and natural succession including invasion of junipers; and (ii) cowbird nest parasitism.

- a. **Fort Sill**--Cowbird parasitism.
- b. **Fort Hood**--Cowbird parasitism, and exposure to tactical vehicle training.
- c. **Camp Bullis**--Possibly cowbird parasitism.

3. Potential threat

- a. **Fort Sill**--Initiation of military activities within existing colony sites could be detrimental.
- b. **Fort Hood**--Loss of habitat due to natural succession; maneuver damage to habitat could occur although it does not appear to have been a problem to date.
- c. **Camp Bullis**--Loss of habitat due to natural succession.

B. Over-utilization for commercial, sporting, scientific, or educational purposes

1. Past threat--Unknown.
2. Present threat--The Black-capped Vireo is attractive to both professional and amateur ornithologists. Nests have failed or were abandoned because of excessive activities of photographers.
3. Potential threat--Unknown.

C. Disease or predation

1. Past threat--Unknown.
2. Present threat--Remarkably free of ectoparasites and disease (Graber 1961). However, eggs and young are subject to predation. On Fort Hood, over 27 percent of nests were destroyed mostly due to predation. Major predators include snakes, birds (e.g., jays), small and medium-sized mammals, and ants.
3. Potential threat--A reduction in cowbird parasitism likely will result in a higher incidence of predation.

D. Inadequacy of existing regulatory mechanisms

1. Past threat--Prior to listing as a federally endangered species, existing regulations were inadequate to protect the vireo's habitat.
2. Present threat--The Endangered Species Act does provide adequate protection for the species on federal lands including the three Army installations discussed here. However, enhancement of the existing populations and ultimate recovery of the species depends on a proactive approach to management on the part of the Army.
3. Potential threat--Unknown.

E. Other natural or manmade factors

1. Past threat--Unknown.
2. Present threat--The greatest existing threat to the Black-capped Vireo throughout its range is nest parasitism by the Brown-headed Cowbird. Within the range of the vireo, the abundance of cowbirds is primarily the result of extensive cattle grazing and feedlots. From 1987 through 1990, the incidence of parasitism among Fort Hood vireos ranged between 65 and 90 percent. Parasitized nests were found to be subject to higher rates of nest desertion during incubation and higher levels of destruction during the nestling stage than unparasitized nests (Tazik and Cornelius 1990). Nesting success among parasitized nests was about half that of unparasitized nests. Production was reduced by as much as 42 to 86 percent.
3. Potential threat--Military activity on each of the installations is a potential threat to individual vireo colony sites, although no serious habitat destruction has been documented to date.

II. ASSESSMENT AND RECOMMENDATIONS

12. General assessment of vigor, trends, and status--Given the high level of cowbird parasitism throughout the vireo's range, it is not clear how existing populations are being maintained.

A. Fort Sill--Existing habitat is probably stable. Most exists on boulder-strewn hillsides with shallow soils that likely will not change much with time as long as there are no major disturbances. The vireo population declined from 17 or 18 adults in 1988 to 6 in 1989, and 8 in 1990. This appears to be a natural fluctuation in this marginal part of the existing vireo range and is unrelated to military activity. Production during 1988 through 1990 averaged 1.0 to 1.4 young per mated pair.

B. Fort Hood--The population seems stable at about 280 adult birds despite poor reproductive success. The population appears to be supported by immigration from areas off-post. Habitat availability has been and probably will continue to be enhanced by military activity. Most existing colony sites can coexist with current land uses although there is some risk of negative effects on certain sites. Production ranged from 0.3 to 1.8 young per mated pair during 1987 through 1989.

C. Camp Bullis--This population also seems stable at about 35 or 36 adult vireos. Present mission and land use management activities probably are not likely to jeopardize the vireo. Reproductive success has not been documented. Habitat is likely to be maintained by natural and military related fires.

13. Recommendations for listing or status change

A. Recommendations to U.S. Fish and Wildlife Service

1. Recommended U.S. federal status--The Black-capped Vireo should be maintained as an endangered species throughout its present range. A substantial contraction in its historic range has been well documented and reproductive success continues to be limited severely by cowbird parasitism.

2. Recommended priority for federal action--Review current status for Texas after a more thorough assessment of the current population size. Recent evidence indicates the population may be far larger than originally anticipated.

B. Recommendations to other U.S. federal agencies--Maintain current status.

C. Other status recommendations

1. Counties and local areas--None.

2. States--Texas: consider possible down-grading to threatened after a more thorough assessment of current population size. Oklahoma: maintain endangered status.

3. Other nations--Mexico: endangered species status.

4. International Trade Convention--None.

14. Recommended critical habitat--None. The ephemeral nature of the vireo's habitat makes designation of critical habitat inappropriate.

15. Conservation/recovery recommendations

A. General conservation recommendations

1. Habitat--On Fort Hood, habitat should be developed in areas least likely to conflict with mission activities while continuing to protect existing habitat. Habitat development, planned and accidental, should be avoided in areas highly used/desirable for training. Although prescribed burning is a preferred method for maintaining existing habitat and developing new habitat, other means of habitat development should be investigated.

2. Cowbird parasitism--Presently, the most serious threat to the Black-capped Vireo on Army lands is cowbird nest parasitism. Especially at Fort Hood, the Army should evaluate the relationship between cattle grazing and cowbird abundance and develop more effective methods of controlling cowbirds. Fort Hood also should consider modifying or eliminating the existing cattle grazing program.

3. Other recommendations--The Army should work with other state and federal agencies in developing of a regional approach to management and eventual recovery of the species.

B. Monitoring Activities--Annual monitoring of distribution and abundance of the vireo on each installation should continue. Continue to monitor reproductive success of a representative sample of birds on each installation. Land use and management activities should be adjusted as necessary according to the results of inventory and monitoring. Habitat should be monitored using Land Condition Trend Analysis methodologies (Tazik *et al.* 1991).

16. Interested parties--Arlington District Office, U.S. Fish and Wildlife Service; Texas and Oklahoma Natural Heritage programs; Nature Conservancies of Texas and Oklahoma; National Wildlife Federation; Dr. Joseph Grzybowski, Norman, OK; City of Austin.

III. INFORMATION SOURCES

17. Sources of Information

A. Publications

1. References cited in report

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a. Technical

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b. Popular--Unknown.

B. Museum collections consulted--None.

C. Fieldwork--U.S. Army Land Condition-Trend Analysis Group, Construction Engineering Research Laboratory, Champaign, IL; and Fish and Wildlife Section, Fort Hood, Texas.

D. Knowledgeable individuals--Dr. David J. Tazik (U.S. Army CERL, P.O. Box 9005, Champaign, IL 61826-9005); Mr. John D. Cornelius (Fish and Wildlife Branch, Fort Hood, Texas); Dr. Joseph A. Grzybowski (Norman, OK); Ms. Susan Rust (Stewardship Services, San Antonio, TX); Dr. Thomas Martin (Fish and Wildlife Cooperative Research Unit, University of Arkansas, Fayetteville, AR).

18. Summary of information on file--Inventory and monitoring data from Fort Hood (1987-1989), and Camp Bullis (1989-1990) (USACERL); photographs (USACERL). Fort Sill data--Dr. Joseph Grzybowski, Norman, OK; Camp Bullis data--Ms. Susan Rust, San Antonio, TX.

IV. AUTHORSHIP

19. Initial authorship--Dr. David J. Tazik, Environmental Division, U.S. Army Construction Engineering Research Laboratory, P.O. Box 9005, Champaign, IL 61826-9005, 217/398-5443.

20. Maintenance of status report--Unknown.

V. NEW INFORMATION

21. Record of revisions--None.

ENR Team Distribution List

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CEHSC 22060 ATTN: CEHSC-FN	FORSCOM (20) ATTN: Envr Office
US Air Force Command ATTN: Envr/Natural Res Ofc Andrews AFB 20031 Wright-Patterson AFB 45433 Randolph AFB 78150 Maxwell AFB 36112 Elmendorf AFB 99506 Scott AFB 62225 Hickam AFB 96853 Peterson AFB 80914 Offutt AFB 68113 Langley AFB 23665 Bolling AFB 20332	TRADOC (16) ATTN: Envr Office NAVFAC (7) ATTN: Envr/Natural Res Ofc Fort Belvoir, VA ATTN: CECC-R 22060 Defense Technical Info. Center 22304 ATTN: DTIC-FAB (2)
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V Corps 09079 ATTN: AETV-EHF-R	
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